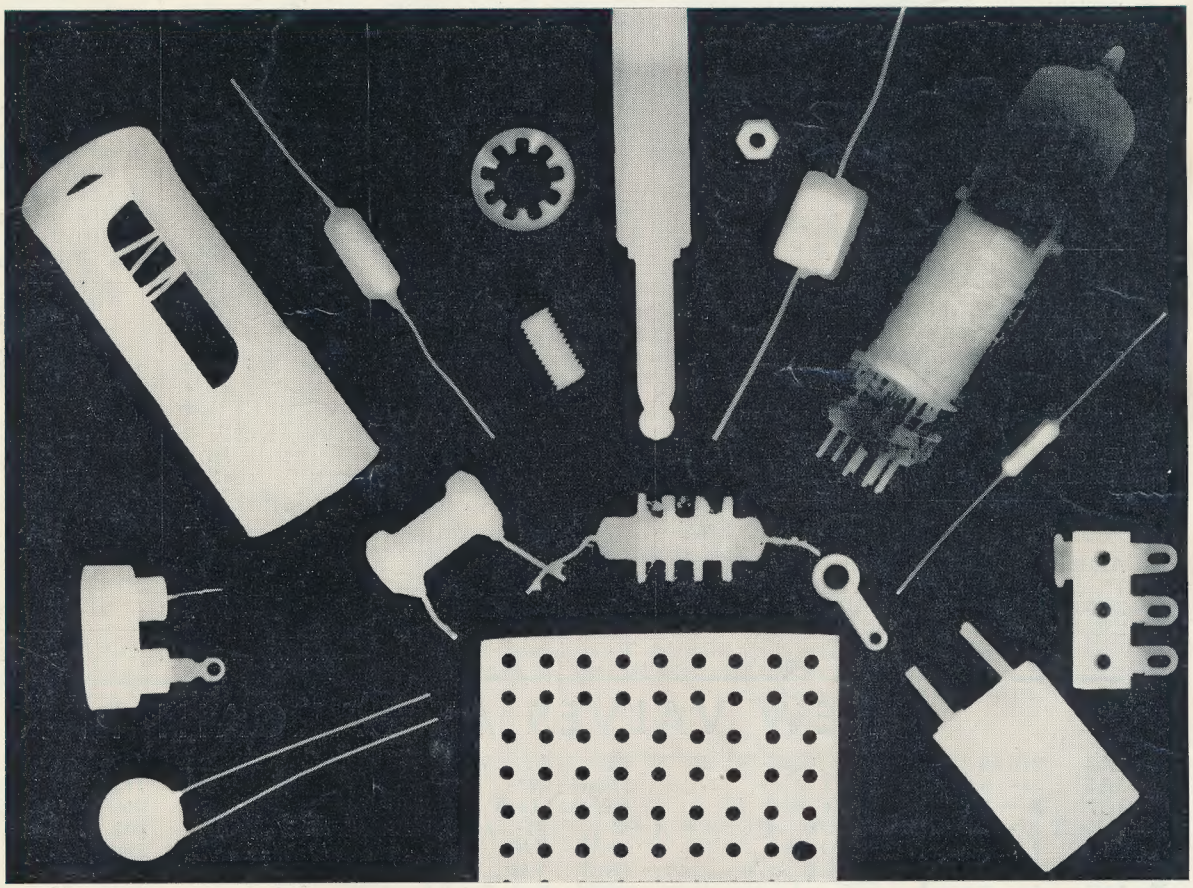
AMATEUR RADIO

APRIL 1963



Vol. 31, No. 4

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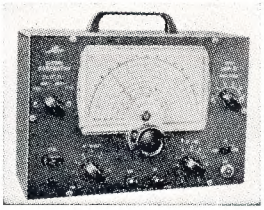

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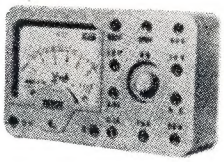

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"AMATEUR RADIO"

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OUR COVER

This month the photographer has arranged a variety of common radio components to form our cover design. As a matter of interest, how many can you identify? All are correct scale size. The following were used: disc ceramic condenser, xtal socket, ventilated valve shield, polyester condenser, lock washer, iron dust coil core, phone plug, metal thread nut, mica condenser, QQE03/12 valve, ¼ watt resistor, tag strip, FT241 xtal, "Zephyr" board, solder lug, r.f. choke and a wire wound resistor.

FEDERAL COMMENT

★

WHY NOT A NOVICE LICENCE IN AUSTRALIA?

A recent examination of the major Amateur licensing countries in the world indicated that large increases were taking place at an average annual growth rate of approximately 10%. Further inspection revealed that to a large extent this growth was the result of these countries' interest in their youth. Most large Amateur countries like the U.S.A., U.S.S.R., Brazil, Argentina and Japan have made provision for a restricted licence, in relation to power, frequencies, technical knowledge and code speed. These licences are akin to our own proposals for a Novice licence.

It is self-evident that if early training in the electronic field is a requirement to keep abreast with trends overseas, the Australian Government must see the wisdom of the proposals for a Novice licence in our own country. Our many attempts during the past few years to present a plan acceptable to the licensing authorities has met with little success, despite the support of the Armed Services. The repeated submission of the Institute's proposals which are considered to be realistic and in the best interests of the country, have been met with specious reasons why the proposals are not acceptable.

The main basis for rejection seems to have been on the safety aspects involved and the fear that the licensing authorities will be held responsible in the case of electrocution or the like. Yet why should a 10-watt transmitter be any more lethal than a receiver or an audio amplifier? Anyone who has teenage children today well knows that interest in a hobby is the best way of enabling youth to take a pride in something and "find" themselves in a constructive and not destructive field. It is no more difficult or dangerous for the youth of today, with no prior knowledge, to build himself a receiver or audio amplifier than it was in our youth to build a crystal set. Surely, then, this cannot be the real reason given by the authorities for their repeated refusals for a Novice licence.

If administration is a difficulty, this will come in any growing community and must be catered for appropriately. When a boy grows into a man we do not keep him in short pants—he must be given a man-size suit. There may well be other reasons also, but none of the counter arguments given so far appear to be valid enough to deny youth its chance in the rapidly expanding electronic field.

Whatever the official reasons have been in the past, it is high time that the Government and the authorities review the case of the Novice licence in the light of overseas trends, the benefit for youth on the sociological plane and the long-term acquisition, at no cost to themselves, of a pool of highly qualified and competent men in the technological sphere.

FEDERAL EXECUTIVE, W.I.A.

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Phasing-Filter S.S.B. Generator*

Dual System for Better Sideband Suppression

DR. LEO H. McMAHON,† VK2AC

● By combining the features of the phasing and filter types of carrier and sideband suppression, VK2AC finds that more complete suppression is obtainable in practice with less critical adjustment of either section.

SINCE the introduction of Amateur s.s.b. in its present-day form, late in 1947, the two systems of sideband generation—filter and phasing—have been subjected to much experimentation and practical testing. As to a preference between the two methods, the trend toward the filter system, in one form or another, by manufacturers of Amateur equipment may be taken as a guide. This also follows a long-established practice in commercial communications systems. For the home constructor, however, both systems present problems. In the case of the filter system, the main ones are cost, positioning of the basic frequency in respect to the filter response, and sideband switching. With the phasing system, they are in the adjustment of the phasing controls (particularly in r.f. phasing), limitation of the suppression obtainable in practice, and wide frequency response unless special steps are taken to minimise it.

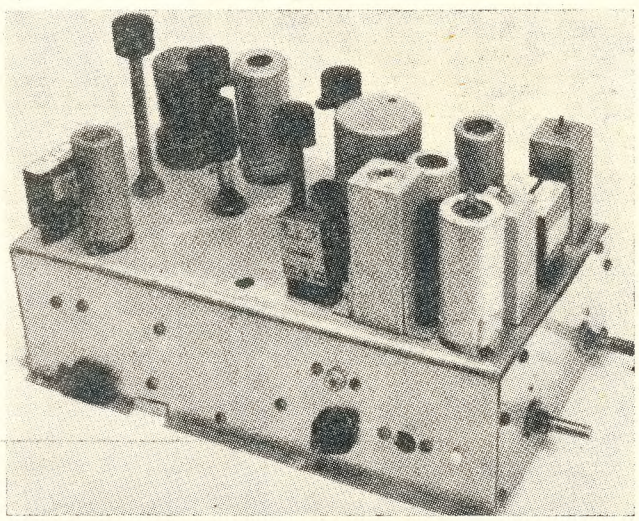
It was considered that if the two systems were combined, each in a simple form, the end result would be an improvement, even if each system was not adjusted to a highly accurate degree. The chance to put this into practice came with the availability of a "Sideband Package"[2] built in its originally described form, but in which the sideband generator was not considered satisfactory. This generator was simply replaced by a new one consisting of a low-frequency phasing-type generator, followed by a single half-lattice filter. The end results from this generator have been excellent as to both carrier and sideband suppression.

AUDIO PHASING CIRCUIT

The phasing system used (see Fig. 1) is essentially the one described by W2EWL,[3] but scaled down to approximately 440 Kc. This frequency was chosen chiefly because suitable crystals were on hand. The exact frequency can be a matter of choice. The audio output at T301 in the original "Package" circuit was found to be sufficient with a little to spare.

There is one minor modification in the input resistor of the B. & W. audio phase-shift network used in the W2EWL circuit. The division of audio voltage input to the network must be in the ratio of 7 : 2. This ratio is determined by the position of the moving arm of the 500 ohm input potentiometer. However, it is possible to get this ratio in respect to either end of the potentiometer. This may cause confusion which can be avoided by using a fixed 500 ohm resistor as part of the network, so that the higher voltage is always applied to Pins 1 and 5 of the p.s.n. as required. Increasing the total input resistance to 1,000 ohms has little effect in practice. If a potentiometer of less resistance is available, this can be used with a smaller fixed resistance to maintain the total of 500 ohms, if desired.

The coupling transformers used between the audio phase-shift stage and the balanced modulators are simply a pair of high to low impedance audio transformers. In the original W2EWL unit, it was suggested that 20,000 to 200 ohms be used. Anything of this general nature is satisfactory provided that the two transformers are similar.



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VK2AC's sideband generator is constructed to fit in the space occupied by the original generator in the W6TEU exciter. To the left are Y1 and V1, the audio ratio and balance controls, the plug-in p.s.n., and the 12AT7. Near the centre are R1 and R2, the s.b. selector crystals (disregard the frequency marking on the foremost holder), and a round shield can containing L1, L2. In the adjacent line are L3, L4, the 12AU7, and the 6AG5. C2 (hidden) is mounted between the two tubes. At the right-hand end of the chassis are the 6BU8, T2, the filter crystals, and T1.

★

R.F. PHASING

The r.f. oscillator that generates the basic 440 Kc. signal (also shown in Fig. 1) is patterned after the low frequency circuit used in the "Package". The phasing arrangement is a very simple RC network suggested by ZL-1AAX.[4] It is coupled to the output tank of the cathode follower. A value of 100 ohms was used for the resistance arm, and the capacitance required for a reactance of this same value is approximately 3,600 pF. Several capacitors of smaller values in parallel are used to make up a total of approximately the required value. Likewise, R3 is made up of several higher-resistance values in parallel. The resultant capacitance and resistance are juggled until the r.f. voltages measured across the two arms are equal. Once this condition has been attained, no further adjustment of r.. phasing should be required—a point that should appeal to all who have tried to adjust the two-coil system.

L3 should be a coil of i.f. type that will resonate at 440 Kc. with a capacitance of 100 pF. So far as the coupling coil L4 is concerned, it is necessary that it be only large enough to produce about 2 volts of r.f., peak to peak, across the output terminals. There is no point in making the coil larger than this.

BALANCED MODULATOR

The balanced modulator is a 440 Kc. version of W2EWL's, using semi-conductors instead of the vacuum diodes. To maintain the same LC ratio in the output circuit requires an increase in capacitance of about 20 times that used at 9 Mc., or a value of 0.02 μF. for each of the two capacitors, the resultant of the two in series making a capacitance of 0.01 μF. across the coil. (As a convenient way of arriving at the size of coil needed to resonate at 440 Kc. a coil was wound that would resonate at 4,400 Kc. with 1/100 of the capacitance, or 100 pF.) A crude attempt was made to match the 0.02 μF. capacitors by connecting them across an audio oscillator and measuring the voltage drop across individual capacitors until a pair with essentially the same drop was found.

Wire wound controls were used at R1 and R2 because they were found to be more reliable and positive in their action than carbon units.

---

* Reprinted from "QST," October, 1962.

† 22 Pitt St., Randwick, N.S.W.

[2] Bigler, "A Sideband Package," "QST," June, 1958.

[3] Vitale, "Cheap and Easy S.S.B.," "QST," March, 1956.

[4] Earnshaw, "An Improved Phase Shift System," "CQ," November, 1959.

CRYSTAL FILTER

The output of the balanced modulator feeds a conventional Class A amplifier stage (see Fig. 2) which is followed by a single half-lattice filter. It is possible to overdrive the 6AG5, so the input coupling should be adjusted to avoid this.

The use of a single half-lattice filter in this combination gives all the results required. Surplus crystals were used and, since it is a difficult job for most Amateurs to alter the frequency, a different approach was used in selecting the basic frequency in respect to the filter curve. A study of the surplus-crystal frequencies available, shown in the following table,[5] will reveal recurring frequency differences of 1389, 463, 926, 463 and 1389 cycles when two-digit and three-digit channel numbers are interposed.

Channel No.	Fundamental Freq. (Kc.)	Difference Cycles
317	440.277	
38	440.740	463
318	441.666	926
39	442.592	926
319	443.055	463
40	444.444	1389
320	444.444	0
321	446.296	1389
41	445.833	463
322	447.224	926
42	448.148	926
323	448.611	463

By experimenting it was found that a frequency separation of 1389 cycles between the two filter-network crystals was sufficient. This represents the difference between Channels 320 and 319. Then, depending on the type of microphone in use and the general pitch of the operator's voice, the carrier frequency chosen was 463 or 1389 cycles below the lower-frequency filter crystal. The carrier crystal frequency in Fig. 1 is shown as 441.666 Kc.

This procedure is so simple, and gives such good results, that it is advisable to purchase a few odd crystals with which to experiment. The aid of other Amateurs should be enlisted and their opinions sought and studied to decide which carrier frequency is the most satisfactory from an audio point of view in each particular case. This may not seem to be a very scientific approach to the problem, but it represents by far the most satisfactory method from the practical angle.

A variable phasing capacitor (C2) is necessary for adjusting the filter to optimum. To provide a range of adjustment, a small fixed capacitance in the vicinity of 2 to 5 pF. is placed across the lower-frequency crystal, and a small variable capacitor of about 3 to 12 pF. or so across the other.

The transformers used in the filter are of the ordinary type, padded to approximately 440 Kc. and provided with a capacitive centre tap.

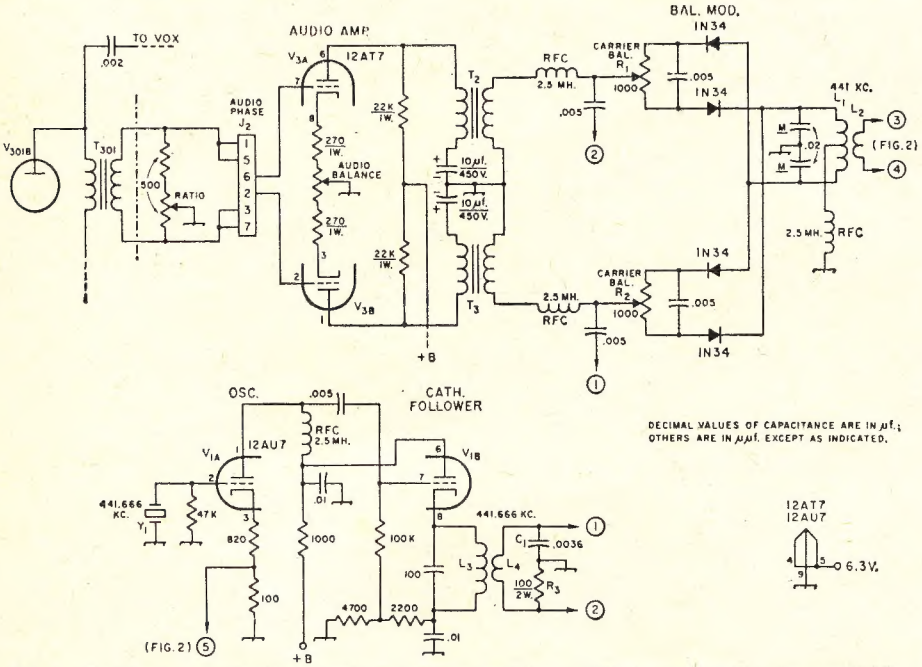

Fig. 1.—Audio and r.f. phasing circuits. Audio output from T301 in the "S.S.B. Package" now goes to the W2EWL phase-shift circuit (portion between broken lines in which original component designations are used) instead of to the balanced modulator. R.f. input to the W2EWL balanced modulator is now at 440 Kc. instead of 9 Mc. Semiconductors replace vacuum diodes in W2EWL's balanced modulator. The oscillator circuit is a modification of one used in the "Package". Resistances are in ohms, and fixed resistors are ½ watt unless indicated otherwise. M indicates mica. Other fixed capacitors not listed below are disc ceramic. Values in the W2EWL portion of the circuit are the same as in the original.

C1—Mica capacitors in parallel (see text).
L1—40 turns No. 24 enamelled, ⅝ inch diam., close wound.
L2—13 turns wound over centre of L1.
L3—Approx. 1.3 mH. (see text).
L4—25 turns wound at ground end of L3.
R1, R2—Wire wound control.
R3—Nominal value (see text).
Y1—Channel 318 (surplus).

BALANCED MIXER

The balanced mixer stage (Fig. 2) uses a 6BU8, which has worked very well and gives a conversion gain of about five. Balancing controls were tried in the experimental model but were not found necessary. C3 was made by twisting together two pieces of insulated wire.

SIDEBAND SELECTION

Sideband selection is accomplished by shifting the frequency of the oscillator feeding the balanced mixer. The system of selection used in the original "Package" was ingenious, but it may give rise to a possible source of trouble. In the frequency-multiplying stages any generation of a fifth harmonic might be applied to later stages and appear as carrier. It is not possible to balance out this fifth harmonic and so the practical carrier suppression may not be satisfactory. Some fifth harmonic energy is always generated in the multiplying stages and can feed into the output stage by devious routes.[6] With the cheapness and availability of crystals ground to a desired frequency, the method shown in Fig. 2 is an easy way to avoid this possible difficulty. The two crystal frequencies should be spaced twice the carrier frequency. Crystals ground to specified frequencies may be obtained reasonably from several firms advertising in "A.R."

CONSTRUCTION

Physically, the unit was constructed to replace the original generator in the "Package". However, a 5" x 9½" x 3" chassis was used to allow mounting of some of the components underneath. The first things mounted were the carrier-insertion potentiometer and the sideband switch to fit in exactly the places occupied by these controls in the original unit. From then on, parts were mounted with an attempt to keep r.f. sections as well spaced and isolated as possible to avoid unintentional coupling. The audio transformers were mounted underneath on opposite sides of the chassis. The diodes were mounted between the balancing potentiometers and the 0.02 µF. capacitors, as well spaced as possible and at right angles.

The balanced modulator coil, L1, was mounted above the chassis and covered with a shield, while the Class A input coil, L6, was mounted underneath.

ADJUSTMENT

In the adjustment of any s.s.b. transmitter, the use of a v.t.v.m. with an r.f. probe is almost mandatory. The first step in the adjustment is to see that the two crystal oscillators are operating properly. In the low-frequency oscillator, the input to the arm of each balance potentiometer is about 2 volts peak to peak. This is not a very large value, but it is quite sufficient for the purpose.

The next step is to peak all of the tuned circuits. To do this, the crystals are removed from the filter, and one of them put in the oscillator. A spare FT-243 crystal, or a capacitor of about 10 pF., is inserted in one of the filter sockets to provide a small amount of capacitive coupling across the filter.

Set the phasing capacitor, C2 to minimum, and unbalance the modulator

[5] Mason, "Surplus Crystals," "CQ," January, 1957.

[6] This was not definitely confirmed by the author, nor has this difficulty been reported by anyone who has built the "Package." Adequate shielding of the multiplier stages is important, of course.—Editor "QST."

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by running one of the balancing potentiometers to one end. With the output stage of the exciter feeding a dummy load, and with some sort of output indicator, such as a v.t.v.m., connected across the load (or a receiver tuned to some output frequency of the transmitter, as described in the s.s.b. chapter of the A.R.R.L. Handbook), all tuned circuits are peaked.

Next, adjust the injection from the crystal oscillator to give maximum gain in the conversion stage. With S1 set to the low frequency crystal, set C5 near maximum capacitance and adjust L7 for maximum injection. Then adjust C3 for optimum injection. Now turn S1 to the high frequency crystal and adjust C4 for the same injection. If the same injection cannot be obtained, it may be necessary to repeat the process with C5 set to a lower or higher value. Optimum injection is a matter of only a few volts. Since this oscillator feeds into a high impedance load, it is easy to overdrive the mixer. As a matter of fact, care must be used constantly to avoid overdriving at any point in the system. Overdriving is a most common fault in many s.s.b. transmitters. It is always better to underdrive than overdrive, so always set the levels a little on the conservative side.

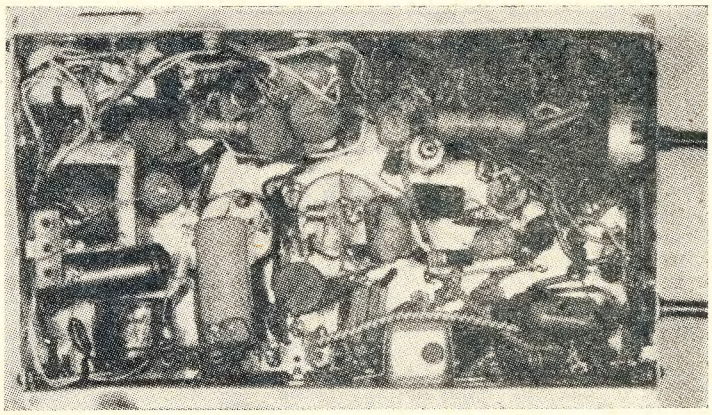
The next step is to see that the circuitry associated with the filter is functioning properly. To do this, remove the FT-243 crystal (or capacitor), and leave the two filter sockets empty. Now vary the phasing capacitor to see if the signal fed through to the output passes through a minimum. It is necessary to find this minimum so that in the final adjustment the capacitor can be set correctly for the most symmetrical response. The null point represents the point at which the circuit is neutralised. This point will be very close to the final correct position. Whatever signal that passes through after the null has been obtained is fed around the filter through stray paths. With the combination of phasing and filtering, a small amount of stray signal is of no importance.

The balanced modulator should now be checked for carrier feed-around. This subject is seldom given sufficient consideration. To make this check, replace the 10 pF. capacitor in one of the filter sockets and then disconnect the two r.f. leads from the balancing potentiometers of the modulator. Put the 441.666 Kc. crystal in the oscillator and then listen on a receiver to one of the transmitter output frequencies. Any signal heard is a result of leak-around and must be minimised.

★

Bottom view of the filter/phasing sideband generator. The audio output transformers are mounted at right angles to the left. L5-L6 is mounted against the lower side of the chassis. The balanced modulator diodes are at the centre. Shafts extending to the right are R5 (above) and R1 (below).

★



Shielded wiring should be used in all power circuits. Remember that a capacitance that makes a good bypass at 9 Mc. may not be sufficient at 440 Kc. The voltage picked up at the cathode of the 441.666 Kc. oscillator should be the minimum required to give full carrier reinsertion, since it was found that there was quite a large amount of leak-around directly from the oscillator to the 6BU8 stage. The voltage required at injection grids of the 6BU8 is only on the order of 300 millivolts, peak to peak.

It was found necessary to shield the balanced modulator output coil. After all other steps had been taken to minimise the leak-around, it was found that there was still slight leakage between the oscillator and mixer tubes, although they were many inches apart. Shielding of both tubes is necessary. Time spent in getting rid of this leak-around will give you a much better signal.

Now the r.f. leads to the balancing controls can be replaced and the carrier balance controls adjusted for maximum suppression. The greater part of the carrier suppression takes place in the balanced modulator with a little additional help from the filter. (The main contribution of the filter is in eliminating the unwanted sideband.) Even without the filter, the residual carrier should be well down in the hum or noise. The stability of carrier suppression of this high degree is quite good, but not absolute.

The next step is to set the sideband suppression controls. This is done first for the phasing system, with crystals removed from the filter and the 10 pF. capacitor substituted as described earlier. By far the easiest and fastest way to set the ratio and audio balance controls is to feed in a single tone of about 1,000 cycles and adjust for minimum response on the unwanted sideband, using a receiver of sufficient selectivity; otherwise, you will have to make use of an oscilloscope pattern. When the audio phasing controls have been set, replace the filter crystals and set the filter phasing capacitor, C2, for maximum sideband suppression. It is in this step that you will need some sensitive detecting device, since the degree of sideband suppression will test the capabilities of any receiver. It gets to a point where it is hard to decide which to believe—the receiver or the generator.

An important point to watch in these adjustments for sideband suppression is to be sure that the same sideband is suppressed in both the phasing system and in the filter. If it becomes evident that opposite sidebands are being suppressed in the two sections, this can be corrected by reversing one set of audio output leads, or the r.f. input leads to the balanced modulator. The setting of the filter phasing capacitor for maximum suppression should come very close to the previous setting made for balance in the crystal filter. Once the suppression controls have been set, the tuned circuits can be repeaked. In all of these adjustments, it is very essential to be sure that no stage is overloaded, since this may lead to false indications.

(Continued on Page 19)

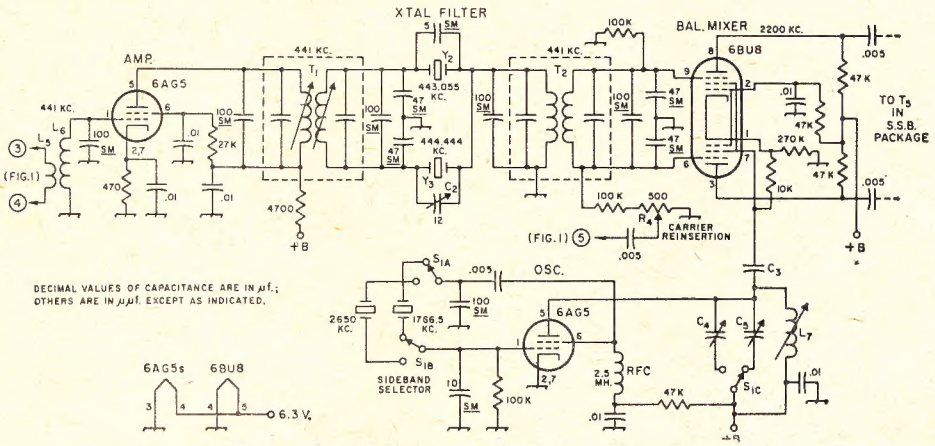


Fig. 2.—Crystal sideband filter, balanced-mixer and sideband-selector circuits. This section fits between the balanced modulator of Fig. 1 and the 2,250 Kc. mixer of the "Sideband Package" circuit. The sideband selector replaces the original system in the "Package". Resistances are in ohms, and fixed resistors are ½ watt unless indicated otherwise. SM indicates silver-mica capacitor. Other fixed capacitors not listed below are disc ceramic.

C2—3.5-12 pF. trimmer.
C3—"Gimmick" (see text).
C4—65-340 pF. trimmer.
C5—100-500 pF. trimmer.
L5—5 turns over ground end of L6.
L6—Same as L3 (Fig. 1).
L7—20 μH. iron-slug coil.
R4—Wire wound control.
S1—Three-pole, two-position rotary switch.
T1, T2—455 Kc. i.f. transformers.
Y2—Channel 319 (surplus).
Y3—Channel 320 (surplus).

Multiband Mobile Antenna Loading Coil*

E. ZIEMENDORF, W2IGI, and J. LAMPUS, W2KJV

TO most mobile Hams the antenna system presents certain limitations and problems. Multiband operation multiplies the difficulties in nearly direct proportion to the number of bands used. Some of the problems have been overcome over the years by experimentation and "home-brewing," and it is the purpose of this article to describe the results of a recent effort to improve on multiband mobile antennae. Specifically, the article describes the details of construction of a tunable mobile loading coil for the bands from 75 to 10 metres.

The construction of the coil will present no problem to the Ham having access to a small machine shop. Because each Ham may have other sizes and dimensions of material available than those shown in the cutaway view, Fig. 1, drawings and dimensions of the individual pieces will not be shown.

The body of the loading coil is a paper-laminate phenolic tube (Spaulding Fiber) $1\frac{1}{8}$" o.d. by $\frac{7}{8}$" i.d. by 10" long. A longitudinal slot $\frac{3}{8}$" wide by 8" long is cut in the tube. The ends of the slot are equidistant from the ends of the tube. Contact between the slider and the inside of the wire is made through this slot to provide tuning adjustment.

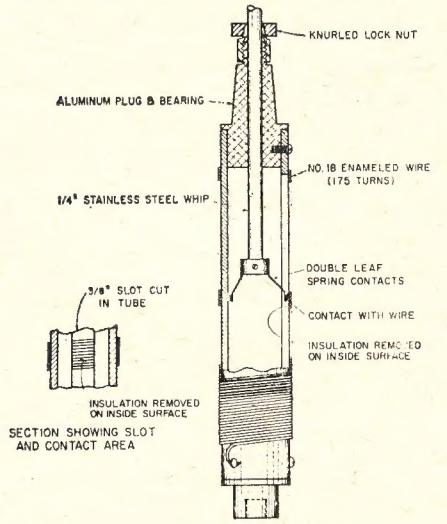
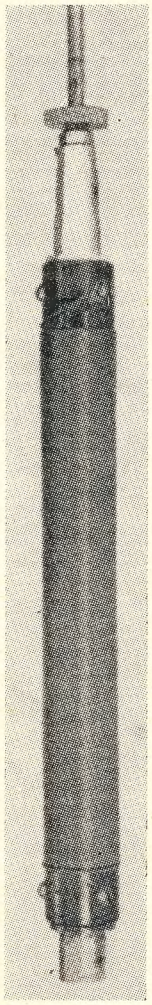

KNURLED LOCK NUT
ALUMINUM PLUG & BEARING
NO. 18 ENAMELED WIRE (175 TURNS)
1/4" STAINLESS STEEL WHIP
DOUBLE LEAF SPRING CONTACTS
3/8" SLOT CUT IN TUBE
CONTACT WITH WIRE
INSULATION REMOVED ON INSIDE SURFACE
INSULATION REMOVED ON INSIDE SURFACE
SECTION SHOWING SLOT AND CONTACT AREA

Fig. 1.—Cutaway drawing showing the constructional features of the loading coil. The dimensions can be varied to suit materials available.

The slider contacts were made from heavy-duty spring contacts obtained from a defunct Centralab JV-9002 switch. Two of these are soldered 180 degrees apart to a collar which is then fastened to the main whip with set screws. One spring contact rides on the inside of the fibre tube and provides electrical and mechanical stability. The other contact rides on the inside surface of the wires, which have been cleaned of insulation.

Because of the danger of shorting turns, a chemical cleaner could not be used to remove the insulation from the inside of the wire. Several slow and unsuccessful methods were tried before it was found that coarse sandpaper placed on a flat, narrow piece of material with a long handle could be used to abrade the inside surface of the wire. This method quickly removed the insulation along the length of the slot. It is essential that good contact be made between the wire and the sliding contact, to prevent noise and detuning.



External view of the coil, whip bearing and locking system.

Additional support for the whip, to help prevent the contact on the wire from moving, is provided by a fairly long bearing at the top of the coil. The aluminium plug and bearing is about $2\frac{1}{2}$" long. The hole to pass the whip rod is a snug fit to help hold the contact secure. A Millen No. 10062 shaft lock holds the whip firmly in position after tuning to the desired frequency. The loading coil is secured to the base section by another aluminium plug tapped for $\frac{3}{8}$-24 thread. Both of these end pieces are fastened to the inside of the fibre tube by three 8-32 machine screws spaced 120 degrees apart. The ends of the wire are fastened under one of the screws at each end of the coil. The electrical circuit of the antenna is shown in Fig. 2.

CONSTRUCTION AND ASSEMBLY SUMMARY

The coil is wound with 175 turns of No. 18 enamelled wire. The winding just covers the slot. The inductance with the slider all the way to the top (approximately 2.8 Mc.) is 120 microhenrys, with a Q of 150. About 80 μH. is used at 4 Mc. Before the coil is wound, the form is sprayed with Krylon to reduce the effects of moisture. Several coats are later sprayed on the completed coil to help hold the wire in place and for atmospheric protection.

The inside of the coil wires must be well cleaned. This will prevent detuning during transmissions and eliminate "intermittents" during reception. A good snug fit in the bearing plug will aid in maintaining good contact between the slider and wire.

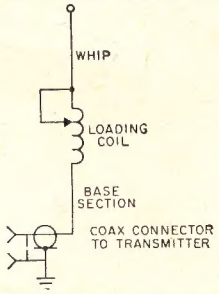


Fig. 2.—Electrical circuit of the whip antenna with loading coil.

The whip is marked for the various bands and frequencies, which are then permanently stamped in the proper places. It was found that the 75 metre phone band could be covered with two settings, by tolerating a slight power loss at each side of a centre frequency. The other bands were calibrated at only one setting. This permitted optimum adjustment for any frequency within a given band. When operating on the 75 metre band the slider is set near the top, while on 10 metres the slider is at or near the bottom of the coil.

The antenna loading coil system shown in the photograph has been used for about six months under all conditions with good results. No detuning or noise has been experienced. Power as high as 60 watts into an Elmac AF-67 has been used without any difficulty.

This antenna tuning system has solved most of the problems encountered with tapped coils, outside sliding contacts, cumbersome LC tuners and others. It is small, neat, stable and, after calibration, easy to adjust to resonance on any band.

No measurements of any sort other than those mentioned above have been made on the coil. Successful QSOs are being made and it is felt that this provides a good indication of its operating characteristics. ●

* Reprinted from "QST," April, 1962.

High Altitude Nuclear Explosion at Johnson Island and Associated Effects on H.F. Signals at Hobart, Tasmania

LEN EDWARDS, VK7LE*

WITH the news some months ago that the U.S.A. intended to explode a number of nuclear devices at various altitudes above Johnson Island in the Pacific Ocean for the purpose of observing effects on radio communications, it was considered probable that some disturbance to long distance h.f. communications would be observed in Hobart on signals whose path passed close to the area.

After considering the problems involved it was decided to make an attempt to observe any such effects and in order to get maximum information from the observations, the following basic requirements would be necessary:

(1) As many frequencies as possible should be observed.
(2) The transmission path should pass through or close to the explosion area.
(3) The observed stations should transmit for the full 24 hours each day.
(4) A time standard should be available for accurate timing of any observed effects.
(5) Received carrier strength and modulation should be observed.

The equipment available for the observations was three receivers, one twin-pen recorder, and two magnetic tape recorders, thus limiting the number of observed frequencies to two, and after a search for suitably located stations, it was found that the WWVH transmitters run by the American National Bureau of Standards and located at the Hawaiian Islands admirably fulfilled all requirements.

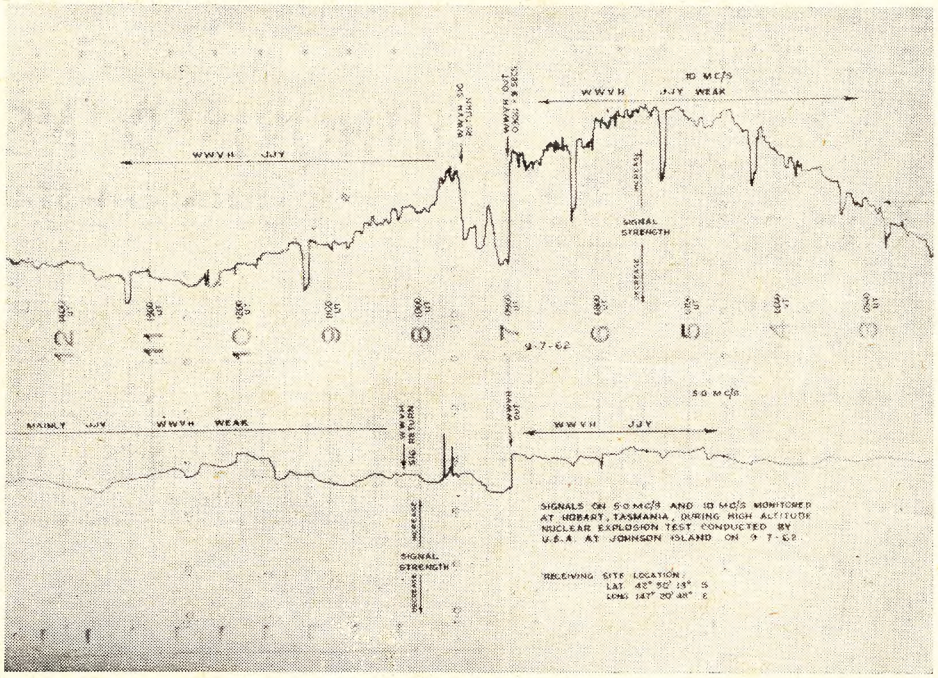
WWVH transmits continuously on frequencies of 2.5 Mc., 5.0 Mc., 10 Mc., 15 Mc. and 20 Mc. The modulation consists of standard frequency tones and one-second standard timing pulses which are controlled within very fine limits and therefore eminently suitable for timing any observed effects.

The signals at Hobart from these stations were checked on the various transmission frequencies and it was found that 10 Mc. and 5.0 Mc. were the only frequencies consistently received, the 10 Mc. signal being received with good strength between 2 p.m. and 5 a.m., a total of fifteen hours each day, and the 5.0 Mc. signal was received for approx. twelve hours each day from 4 p.m. to 4 a.m. These frequencies are shared on an international basis by frequency standard stations in other parts of the world, and at certain times other stations were received along with WWVH, however as all have carrier frequencies controlled to international standards no heterodynes are evident.

The stations received constantly were JJY in Tokyo, WWV in Washington, BPV in Peking and HBN in Switzerland. Most of the time the signal from WWVH was predominent and readily identified on the chart by the carrier break of several minutes at 15 minutes past each hour.

This carrier break provided a ready time check on chart speed and also a check on the relative strength of other stations on the frequency during the off-air period. The audio output of each receiver, consisting of standard time signals, was fed to tape recorders which were switched on five minutes before the expected time of the explosion.

The rocket launching which finally resulted in the successful explosion was scheduled for 0900 hours U.T. on 9/7/62 (UT being essentially the same as GMT). Rocket lift off occurred at approx. 15 minutes before detonation of the device and the flight apparently continued normally until "zero' at 0900 hours. The start of the count-down zero time pulse coincided with the 0900 time pulse from WWVH, and although the count-down pulse appeared to be cut short and disappeared with a burst of static, the signal from WWVH


WWVH JJY
10 MC/S
WWVH JJY WEAK
SIGNAL STRENGTH
9-7-62
5.0 MC/S
MAINLY JJY
WWVH WEAK
WWVH JJY
SIGNAL STRENGTH
SIGNALS ON 5.0 MC/S AND 10 MC/S MONITORED AT HOBART, TASMANIA, DURING HIGH ALTITUDE NUCLEAR EXPLOSION TEST CONDUCTED BY U.S.A. AT JOHNSON ISLAND ON 9-7-62.
RECEIVING SITE LOCATION:
LAT 42° 50' 13" S
LONG 147° 20' 48" E

Pen recordings showing effects of high altitude nuclear explosion at Johnson Island on 10 Mc. and 5 Mc. signals received at Hobart from station WWVH in Hawaii. The sharp cut-off for both frequencies at the time of the explosion is clearly shown at 0900 U.T. (7 p.m. E.S.T.)
—Photograph by courtesy of VK7LJ.

Continuous charts of the signal strength on 5.0 Mc. and 10 Mc. were made for approx. six weeks before a successful launching occurred at Johnson Island, and during this time a daily pattern of signal strength was established for comparison with signals received during and after the event.

The third receiver was used to monitor the count-down which was broadcast on several frequencies by American stations in the area. These status broadcasts, operating under the code name "April Weather", gave details of the count-down on s.s.b. on frequencies of 4631 Kc., 9253 Kc., 12020 Kc., 15515 Kc. and 17473 Kc. It was found that 12020 Kc. and 15515 Kc. gave best signals at Hobart. It was noted that the count-down time signals appeared to be synchronised with the time signals radiated by WWVH.

on 10 Mc. continued until the 9th second pulse and then also cut out completely with a sharp click. Due to misoperation of the tape recorder the exact cut-off time of the 5.0 Mc. signal was not observed but the pen recorders on each frequency were observed to drop at the same time. Tape recorders showed that the signals from WWVH disappeared completely on both frequencies.

On 10 Mc. the signal returned weakly approx. 12 minutes later and then faded out again, gradual return to normal took place 32 minutes after the explosion, but faded again approx. 16 minutes later. It appears from the chart that WWVH signals were only present at 1115 UT and 1315 UT with little other evidence of signal for the rest of the night. The signal on 5.0 Mc. returned

(Continued on Page 19)

* 10 Musgrove Road, Lindisfarne, Tasmania

Further Modifications to the No. 122 Transceiver

I have read many reports of the lack of modulation, etc., in the ex-Service No. 122 Transceivers. The modifications I put forward are not mine, being group contributed.

When I first received my No. 122 set, I found the modulation to be both poor and noisy. After much searching through the modulator circuit, I found capacitor C4C to be at fault. This was replaced and the modulation and quality of same was considerably improved. I could now overmodulate the carrier. Another friend had similar trouble (low modulation and distortion) and by the replacement of this capacitor the set performance was much improved. C4C is in the plate circuit of V3A, a 1H6G, and is a by-pass to earth of 200 pF.

Another modification is to vary the size of the feedback capacitor C17A in the modulator circuit. The higher the value of this capacitor the less modulator gain, and vice-versa. In my set, with the feedback circuit cut out, the gain was too high, resulting in reports of microphonic modulator valves.

To get loudspeaker operation, solder a 0.01 μF. 600v. paper capacitor, or similar, from the second lug from the chassis end on the side nearest the front panel of the driver transformer T4A. The other lead is then taken to the line jack, the lead is soldered to this jack after cutting the other lead off the line jack. A high impedance speaker transformer is connected with a suitable speaker to the line jack. The output is quite satisfactory, even for mobile work.

I found the sidetone a bit too high in level, so I "borrowed" relay RL4 contacts 26 and 27 to switch in a 22K half-watt resistor on transmit. This cut the sidetone sufficiently so that no feedback was evident.

The next one is for those who are not thrilled with pulling the unit to pieces to change crystals. I obtained an ordinary two-pole four-position Oak switch and fitted it in place of the original oscillator control. I had to completely strip the switches and rebuild them, as a switch of sufficient shaft length is not normally available. I fitted the extra crystal socket on the front panel just above and to the side of the switch shaft. A word of warning here! Make sure there is very little capacity coupling between the two wires or your crystals may not oscillate.

Fitting a co-axial aerial socket is a must and this can be fitted near the meter.

There are many modifications that can be done to these sets, many of which have been published in earlier editions of "Amateur Radio". (These include "Wireless Sets No. 22 and 122," July 1959; "Hint to 122 Transceiver Owners," April 1960; and "Modifications to No. 122 Set," January 1962."—Editor)

These sets are not the easiest to work on, but with care everything can be got at, and the resulting performance after modification makes it worthwhile.

—Rodney D. Champness, VK5ZCD.

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Fools' Modulation

NOT everyone agrees with this explanation of f.m. as some people think it is a fine mode to use.

F.m. is now being used on 2 metres by Melbourne Amateurs and interest is certainly increasing.

Equipment being used is mainly of commercial origin, but don't despair, changed P.M.G. regulations will remove from commercial service a lot of gear ideal for Amateur use. However, a v.f.o. and reactance tube works nicely and the evergreen 522 is a natural for f.m. net use.

The f.m. network frequency in Victoria is 145.854 Mc. Crystal multiplication to achieve approx. 10 kc. deviation is .36. Audio limiting and a.g.c. are also used to maintain high average modulation levels. Receivers should contain two limiter stages as adequate limiting will provide best results. Remember there are less components in a limiter stage than an i.f. amplifier and an f.m. detector is not really complex.

F.m. is easily copied using slope detection with a conventional a.m. receiver, but don't condemn f.m. Under these conditions f.m. is only 25% as effective as an a.m. transmitter of the same power.

A good f.m. receiver should limit with a 1 microvolt signal giving a Readability 5 signal. With f.m., all signals are Readability 5 (unless there's little deviation) and signal strengths are weak or strong. Gone are the days of lament when you get S7 in return for your statement of S9+ incoming.

Vertical polarisation is recommended which follows commercial practice of a quarter wave vertical whip antenna.

Mobile operation is most popular as interference (ignition, etc.) does not appear. This is most welcome. Most mobiles run 20 watts input to the 2E26 final and to the writer's present knowledge about 40 of these units are in Amateurs' possession. About 20 larger units (p.p. 2E26s) are known to be in Amateur hands and in the process of conversion, some running inputs as high as 120w.

This f.m. net (145.854 Mc.) will, I feel, expand rapidly and provide an excellent basis for W.I.C.E.N. or emergency use.

Is a.m. better than f.m., or is h.f. better than v.h.f.? No matter what your answer is, all modes and all bands should be used.

Care should be taken to ensure that all 2 metre f.m. stations operate on the correct frequency.

If any information or assistance be required, please contact the writer, A. J. Stewart, VK3ZFS, 11 Woodstock Rd., Mt. Waverley, Vic. or J. Spicer, VK-3ZEL, 413 Stephensons Rd., Mt. Waverley, Vic.

Conversion of the 522 for f.m. use is planned and details will be published as soon as possible.

—VK3ZFS.

CURRENT EDITION OF THE 1963 **CALL BOOK** IS AVAILABLE FROM P.O. BOX 36, EAST MELBOURNE, C.2.

AN EFFECTIVE NOISE SILENCER*

USING A SEPARATE NOISE RECEIVER

G. T. SASSOON, G3JZK

IN the design of many of today's communications receivers, a much neglected feature is the noise limiter. This is possibly due to the fact that commercial users can pick their QTH, and therefore are not likely to be troubled by ignition noise to the same extent as Amateurs—a fact of which the designers of many specialised Amateur-band receivers do not seem to be aware. Furthermore, the increase in road traffic makes the ignition noise problem still more acute, particularly, of course, to the mobile worker.

The deficiencies of the conventional diode clipper-limiter type noise suppression circuit are well known. At best, they are barely effective on weak phone signals, and almost totally ineffective on s.s.b. Various solutions have been proposed: the Lamb noise silencer (first described in "QST" for Feb. 1936) is a lot more effective, although still suffering from certain inherent disadvantages; and, more recently, the Collins Radio Co. have marketed a silencer similar in principle to that described here. However, neither circuit seems to have achieved much popularity on this side of the Atlantic, so the present article may be of some assistance to fellow-sufferers from ignition QRM.

PRINCIPLE OF OPERATION

Consider the block diagram of Fig. 1. A noise pulse radiated by a car's ignition system is picked up by the noise and main aerials simultaneously. It is amplified and detected by the noise receiver, which operates at about 40 Mc., and the rectified impulse is then used to trigger a monostable flip-flop circuit. This produces a long, negative-going pulse, which is applied to the balanced gate in the main receiver i.f. chain, so as to switch the receiver off for a period. In the meantime, the noise pulse has also been coming through the main receiver front-end. However, the bandwidth of the latter is comparatively narrow—a few kilocycles, as compared with over a megacycle for the noise receiving section. Therefore the noise impulse will take some time to build up to full amplitude at point D—much longer than it takes at point C. This is illustrated in Fig. 2. Thus, it is evident that the silencing impulse will have cut off the gated stage some time before the pulse arrives via the main receiver at point D, and so the net noise output from the gated stage at E will be very little. What we have done, in effect, is to switch the receiver off for the duration of the noise pulse.

This system works very well, but there are a number of critical points about the design which must be taken into consideration. First, every precaution must be taken to maintain the highest possible bandwidth in the noise receiver; this has necessitated the use of two pentodes for the flip-flop, where otherwise a double triode might have sufficed. Also, the first half-cycle of a noise pulse could be either positive-going or negative-going at the detector input; for this reason, it is necessary to use a full-wave detector.

* "The Short Wave Magazine," August, 1962.

● This interesting article describes the practical application of noise quenching to an Amateur-band receiver, and is based on the sophisticated Collins design for QRN suppression, known as the Noise Blanker. An essential factor in the success of the unit described here is the R.C.A. 7360, a valve of an unusual type with special characteristics. Our contributor has been obtaining very satisfactory results with this noise suppressor for some two years, and has used it successfully on v.h.f. as well as on the h.f. bands. It is an important development in contemporary Amateur-band receiver design. — Editor, "The Short Wave Magazine."

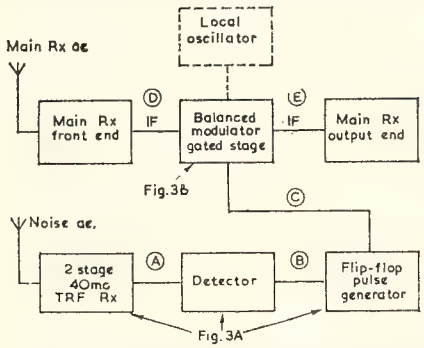


Fig. 1.—Block diagram of silencer and associated receiver. The circuit arrangement is explained and discussed in the text. The local oscillator is included if the gated stage is also serving as a frequency-changer.

Secondly, if the bandwidth in the noise receiver is made high enough, then the silencing pulse itself will contain components at the i.f. Therefore, if a single-ended gated stage were used, the silencing pulses would appear in the output, defeating the entire purpose of the unit. If a low-pass filter (cutting off signals at the i.f.) were placed (say) at point C in Fig. 1, the bandwidth would be too small and the silencing pulses would arrive too late. For this reason, a balanced gate is essential; it must be set up so that no component of the silencing impulse can appear in the output. In practice, the balanced gate proved to be the most difficult part of the design and, in fact, a satisfactory solution was not achieved until the R.C.A. 7360 became available.

The primary objection to this silencer, as regards fitting it to existing receivers, is that it is necessary to break into the i.f. chain. There is no real solution to this problem and, even if there were, it would be most difficult to prevent the stray coupling which would enable the noise pulses to bypass the gated stage. Ideally, the unit should be built in conjunction with an outboard i.f. strip. The balanced gate may also be used as a frequency-changer, simply by feeding in a local oscillator signal in parallel with the silencing pulses, and taking output at the desired frequency. It is hoped in due course to use the existing unit in this way to change from 450 kc. to an 85 kc. i.f. This can be done by feeding in a crystal-controlled signal at 535 kc. and installing an 85 kc. transformer on the output side.

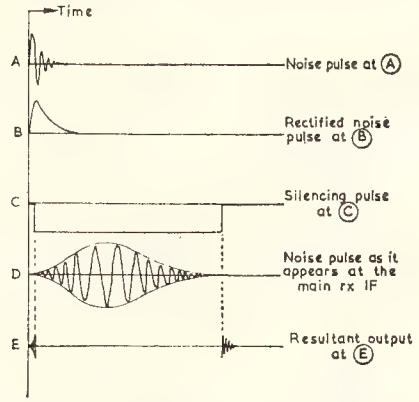


Fig. 2.—Waveforms of a noise pulse as it appears at various points in the block diagram, Fig. 1.

In operation, the unit is most effective on s.s.b. signals, and when listening on those (rare) spots on the h.f. bands where there are no signals. On c.w. the holes are occasionally noticeable, particularly when they occur in the middle of a dash; however, only at the highest speeds could this cause a dash to sound like two dots. On strong a.m. signals, however, the holes are distinctly audible, particularly when it is necessary to increase the hole length to cope with the noisier vehicles. Nevertheless, the amplitude of pulses present in the output cannot exceed that of 100% modulation of the incoming carrier, so that the performance of the unit at its worst is equivalent to that of an ordinary diode clipper at its best. On weaker a.m. signals, the holes are much less noticeable, and under no conditions do they make copying difficult.

CIRCUITRY

The noise receiver front-end (Fig. 3a) uses two 6AK5s, with conventional circuitry. Only two stages are necessary to give the required gain; owing to the broad-band nature of noise, the

noise output is proportional to bandwidth as well as to gain. This receiver has a bandwidth of about 2 megacycles (about 200 times that of a normal receiver), so only about 1/200 of the gain is required. The noise aerial can be any odd length of wire, although a vertical dipole placed strategically low down and near the road gives best results. (A 40 Mc. dipole is about 10 feet long, to save you working it out!) It is advisable to break the aerial connection to the unit when transmitting, to avoid damaging the r.f. stages with excessive grid current.

The anode of V2 is inductively coupled to the full-wave detector D1, D2; gain is deliberately sacrificed here by using a step-down at L3, to improve bandwidth. A negative-going pulse is delivered to the grid of V3, which is normally conducting. As a result, the anode of V3 delivers a positive impulse to V4 grid, V4 being normally cut off. If this impulse is sufficiently large to make V4 conduct, a negative impulse appears at its screen, which is fed back via the detector circuit and C16 to V3 grid, and the state of affairs reverses itself; V4 conducting, and V3 being cut off.

After a time, determined by VR1 and its associated 100K resistor R8 and 200 pF. condenser C16, the circuit reverts to normal. This produces a negative-going pulse at the anode of V4, the length of which is controlled by VR1. At the same time, a positive pulse appears at V3 anode, which is used to light a neon lamp, NE1. (This helps to fill up the panel, and gives an indication of when the unit is working.)

The negative impulse from V4 anode is fed to the control grid of the 7360 (Fig. 3b), which also has a diode (D3) fitted to protect it from positive-going surges, as recommended by the makers. The i.f. input is fed to the deflector electrodes of the 7360, balanced circuitry being used, since it gives a slight improvement in performance. (If, for any reason, this was inconvenient, it could probably be dispensed with.)

Cross-neutralisation is employed between deflector electrodes and anodes, using Philips' trimmers, VC1 and VC2, mounted on stiff wires over the valveholder. This is not strictly necessary to prevent instability, but is included to counter signal feed-through when the valve is cut off. Similarly, it is necessary to take every possible precaution to keep input and output isolated from each other. The input and output i.f. transformer, IFT1 and IFT2 (Fig. 3b), should be placed some distance from the valve, and the anode and deflector connections made with twisted pairs of wires. Using this ex-

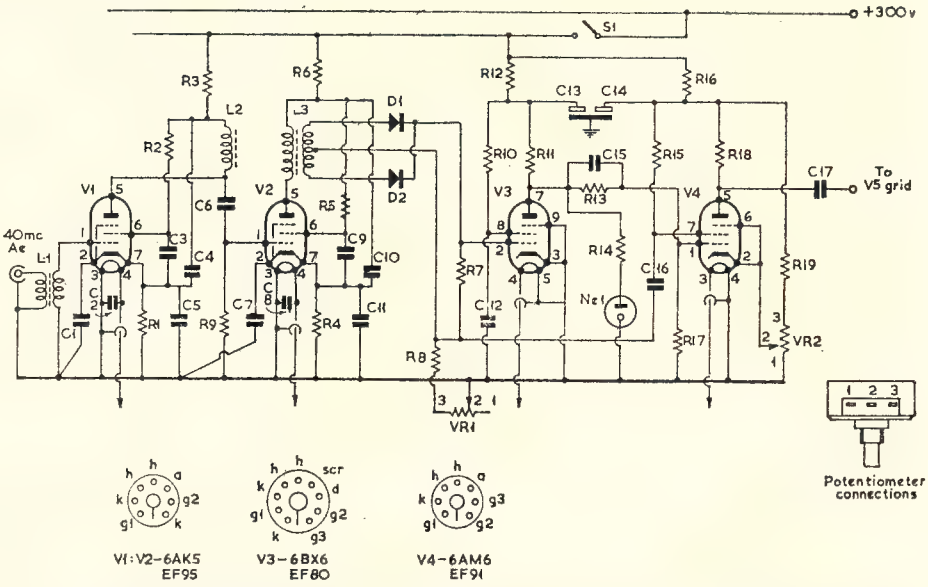


Fig. 3a.—Circuit diagram of 40 Mc. noise receiver and pulse shaper, the output of which drives the gating unit—see Fig. 3b. In the arrangement shown here V1, V2 constitute the broad-band v.h.f. receiver, in which D1, D2 form a full-wave detector. As explained in the text, the action of the circuit is to produce a negative-going pulse at the anode of V4, the length of which is controlled by VR1. The neon NE1 is merely an indicator, and will absorb the positive pulses. The general inter-connection into the main receiver is shown in the block diagram of the system, at Fig. 1.

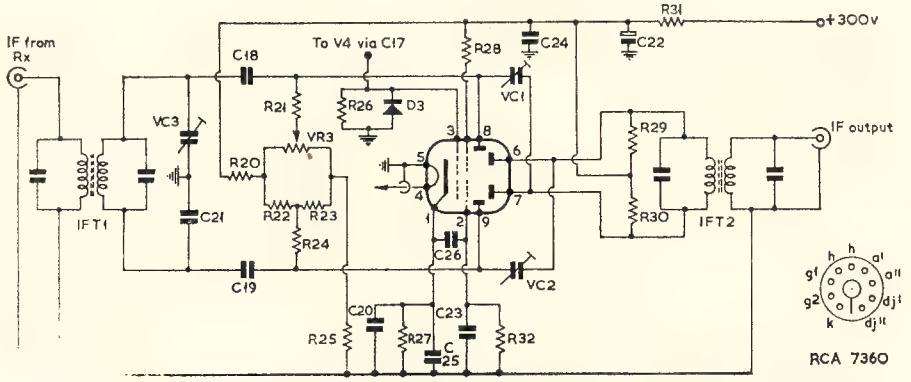


Fig. 3b.—The balanced gate unit, incorporating the 7360, which is driven by V4 in Fig. 3a. VC1, VC2 are neutralising trimmers, and the adjustment and setting-up procedures are discussed in detail in the text. When the silencer is working properly, there should be an absolute blanking of peaky-noise signals, such as car ignition. G3JZK has used the circuit for the last two years with great success, in a very noisy main-road location.

TABLE OF COIL DATA

L1—20 turns 24 gauge enamel, close-wound on 5/16 inch diameter former, for grid; 3 turns 24 gauge close-wound at earthy end, for aerial.

L2—14 turns 24 gauge enamel, spaced to ½ inch winding length, on 5/16 inch diam. former.

L3—Anode winding: 20 turns 24 gauge enamel, close-wound on 5/16 inch diam. former. Diode winding: 3 plus 3 turns insulated wire over h.t. end of anode winding.

L1, L2, L3—All fitted with adjustable iron-dust cores.

IFT1, IFT2—As required, and fitted if necessary with internal condensers of reduced vaule.

Table of Values for Figs. 3a ad 3b.

C1, C2,
C3, C4,
C5, C6,
C7, C8,
C9, C10,
C11 — 0.005 μF. disc ceramic.
C12 — 1 μF., paper.
C13, C14 — 32/32 μF., 450v. electrolytic.
C15 — 100 pF., ceramic.
C16 — 200 pF., mica.
C17, C20,
C23 — 0.1 μF., paper.
C18, C19 — 0.001 μF., ceramic.
C21 — 15 pF., silver mica.
C22 — 32 μF., 450v. electrolytic.
C24, C25,
C26 — 0.005 μF., disc ceramic.
VC1,VC2 — 2-8 pF., Philips' trimmers.
VC3 — 3-30 pF., Phillips' trimmer.
R1, R4 — 150 ohms, 10%.
R2, R5,
R28, R29,
R30 — 22,000 ohms, ½w.
R3, R6 — 12,000 ohms, 1w.
R7 — 27,000 ohms, ½w.
R8, R21,
R24 — 100,000 ohms, ½w.
R9 — 82,000 ohms.
R10, R15,
R18 — 33,000 ohms, ½w.
R11 — 33,000 ohms, 1w.
R12, R31 — 4,700 ohms, 1w.
R13 — 560,000 ohms.
R14 — 100,000 ohms; value depends on the neon.
R16 — 10,000 ohms, 1w.
R17 — 330,000 ohms.
R19, R20 — 100,000 ohms, 1w.
R22, R23 — 4,700 ohms, ½w.
R25 — 12,000 ohms, ½w.
R26 — 1 megohm.
R27 — 180 ohms, 10%.
R32 — 15,000 ohms.
VR1 — 5 megohm log.
VR2 — 25,000 ohms, wire wound.
VR3 — 5,000 ohms, wire wound, pre-set.
S1 — S.p.s.t. toggle.
NE1 — Panel-mounting neon indicator.
D1, D2,
D3 — Xtal diodes, any general-purpose type.
V1, V2 — 6AK5, or EF95.
V3 — 6BX6, or EF80.
V4 — 6AM6, or EF91.
V5 — R.C.A. 7360 (see text).

Notes: VR1, VR2 are panel controls, VR1 for "silencing-pulse length," and VR2 for "threshold." VR3 is the balancing control, see text. S1 is a panel control, for "silencer in-out." The neon NE1 should have its internal resistor removed; the value of R14, nominally 100K, will vary according to the characteristics of NE1.

pedient, it was found possible to do without full screening.

The i.f. transformer connections shown on the input and output sides are only suitable if the unit is to be connected by short lengths of coax. Otherwise, matching arrangements must be made, preferably including a cathode follower on the output side.

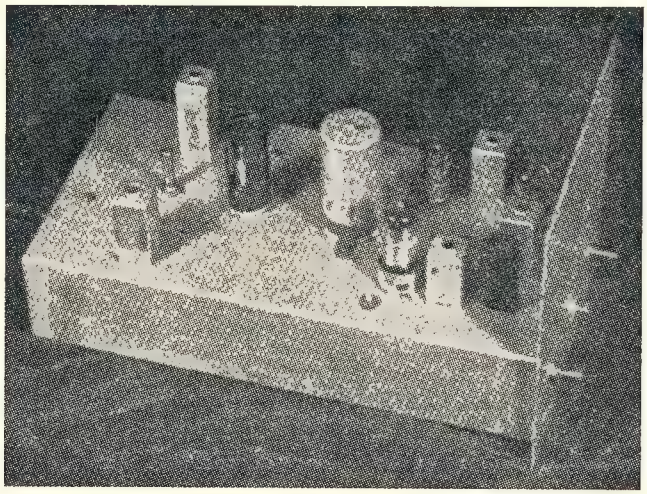
Chassis layout should be logical, with plenty of space left between stages. This is frequently as effective as sub-chassis screening for preventing instability. All power connections should be made with screened wire, and all r.f. stage heaters decoupled at the pins. Apart from the messy agglomeration of components round the 7360 base, the unit should present few problems constructionally.

ALIGNMENT

After assembling and checking all wires, insert the 7360, connect up the i.f. leads, and switch on. If all is well, signals should be audible. Tune in a strong station and peak up the i.f. transformers with VC3 (Fig. 3b) at the middle of its travel. Then connect a 22½-volt deaf-aid battery between 7360 grid (negative terminal) and earth (positive terminal). This should cause an appreciable falling off in signal strength. Adjust VC1 and VC2 (the neutralising trimmers) for minimum signal. Disconnect the battery. The stage should now function again, amplifying strongly; it should give at least 70 db. reduction in signal when the battery is connected.

Next, the noise receiver should be aligned. Plug in the 6AK5s, and connect headphones across the 27K resistor R7 at V3 grid. Noise should be heard, increasing when the aerial is connected. Peak-up the cores of L1, L2 and L3. The exact frequency chosen for this is not critical; the most important consideration is that there should be no non-noise signals in the passband. (At Cambridge, a frequency just l.f. of t.v. Channel 1 Sound is quite satisfactory.) With good h.r. phones, ignition noise should be uncomfortably loud when the stages are correctly aligned. If no output is obtained, check for oscillation by connecting a voltmeter in place of the phones. However, the unit should not oscillate provided that the layout is sensible, all decoupling condensers are present, and the coils are in cans or otherwise isolated.

When the noise receiver is functioning correctly, plug in V3 and V4. The neon, fully lit hitherto, should go out. If VR2 is advanced (clockwise), the neon will light brightly to the accompaniment of a high-pitched squealing from the loudspeaker. Bring VR2 back to a point well below that where the oscillation ceases. The unit should now work after a fashion, but it is still necessary to adjust the balancing controls at the 7360. For this purpose, a test signal is necessary. This is most conveniently provided by an unsuppressed vehicle parked as close as possible to the noise pick-up aerial and ticking over. (However, caution should be exercised in using this method if the vehicle is on the road, since it is an offence to leave it unattended with the engine running. So unless the XYL can be persuaded to go and sit in it, something else must be found; possibly an electric buzzer or bell left running would suffice.)



The noise silencer unit as designed and constructed by G3JZK and fully described in the article. Once adjusted, and incorporated into the main receiver, its operation is automatic. It will give almost complete noise suppression and within certain limits the higher the stray noise level, the more effective the action of the limiter. It is based on an advanced and very sophisticated design used commercially by the Collins Radio Company.

Thus provided with a steady noise signal by one of these methods, the neon should flash regularly, and there should be a clicking from the receiver. To adjust the balance, back off the r.f. gain on the main receiver, and turn up the i.f. unit gain as much as possible. There will probably be a considerable amount of noise. Adjust VC3 and VR3 for minimum output; try touching up the neutralising trimmers if the **null** is not very sharp. Then return to normal listening conditions, peak up the i.f's., and repeat the battery test to make sure. The unit should then be fully functional, producing virtually no noise when there is no input signal, and blocking any signals completely when cut off by the battery.

When finally it is working, the only indication you should ever receive of passing traffic will be a frantically flashing neon.

ABOUT THE 7360

As a postscript, a few words about this valve might be in order, although the makers' agents—R.C.A. (Great Britain) Ltd., of Sunbury-on-Thames—will provide full information on characteristics and suggested applications. They are somewhat expensive, 55/- (Sterling) each about two years ago, but worth it in that they permit considerable circuit simplications. They consist in principle of an electron gun, a pair of deflecting electrodes much like those in a c.r.t., and a pair of anodes. The gun projects a sheet beam of electrons between the deflectors, on to the anodes. When the deflectors are at the same potential, each anode receives an approximately equal share of the current. Any **difference** in deflector potential causes the relative anode currents to change, whereas if both deflectors are changed in potential by the same amount, the anode currents are virtually unaffected. At the same time, the total anode current can be modulated by the control grid. This valve lends itself to numerous applications. For example, it could be used as an audio phase splitter, with earthed control grid, audio input to one deflector, and outputs from the anodes.

However, its principal application is for balanced modulator use in s.s.b. equipment; for this purpose it is of considerable value, since it makes it possible to build a balanced modulator with two single-ended inputs. ●

☆

ERRATUM

The author of "A 100 Watt P.E.P. Band-Switched Phasing S.S.B. Transmitter" (October 1962) has drawn attention to an error in the circuit on page 4. The 50 pF. coupling condenser in the output pi-coupler should be 500 pF.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK6RU	2	281	VK3WL	14	211
VK5AB	45	275	VK3ATN	26	204
VK6MK	43	270	VK4HR	12	192
VK3AHO	51	263	VK4RW	23	184
VK4FJ	21	244	VK3GB	50	183
VK6KW	4	211	VK2JZ	61	180

C.W.

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK3KB	10	307	VK3RP	56	229
VK3CX	26	291	VK3FH	15	226
VK2QL	5	279	VK3BZ	6	222
VK4FJ	29	274	VK2AGH	71	220
VK3NC	19	266	VK4HR	8	218
VK6RU	18	240	VK5RX	23	216
Amendments:			**New Member:**		
VK3XB	75	205	VK5JE	77	100
VK3ARX	66	203			
VK4SD	52	193			

OPEN

Call	Cer. No.	C'nt-ries	Call	Cer. No.	C'nt-ries
VK2ACX	6	300	VK3AHO	76	266
VK6RU	8	290	VK2AGH	83	265
VK4FJ	32	283	VK4HR	7	233
VK6MK	74	273	VK3BZ	4	231
VK3NC	77	269	VK3JA	43	229
VK3HG	3	267	VK3WL	45	225
Amendment:					
VK3TL	85	150			

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Design, Construction and Performance

E. PAWSON, VQ5IB/G8AP

● This is a practical approach to a subject of interest to many an Amateur Radio operator—the provision of an independent, accurately calibrated and reliable frequency measuring unit. All such instruments—on our h.f. bands, at least—work on the principle of a variable frequency oscillator used as an external heterodyne wavemeter. The problem is to build and calibrate such an oscillator to the required degree of accuracy and stability. This article explains how it can be done on the Amateur work bench.

MOST Amateurs at times feel the need of a reliable frequency meter and it is, in any case, obligatory to have a means of ensuring that the transmitter frequency stays within the Amateur bands. Although many modern receivers incorporate a crystal calibrator, there are considerable advantages in having a compact separate instrument, which includes both a crystal standard and a stable, calibrated wide-range heterodyne oscillator. Good quality frequency meters can be purchased—the BC221 is well known—but, even secondhand, they are not cheap. In any case, it is the writer's view that building such a piece of apparatus (and getting it working satisfactorily) is not only very interesting, but also very instructive.

Having purchased a Brookes 100 kc. standard bar, in vacuum mounting on a B7G base, and having obtained a 1,000 kc. crystal from a No. 48 Set, the author decided to build both these into a crystal oscillator, and to put a v.f.o. (as a heterodyne oscillator) into the same box. While there is nothing new in this idea, nor in the circuits used, the detailed arrangement, and the results obtained, may be of interest to other Amateurs.

* Reprinted from "The Short Wave Magazine," March, 1962.

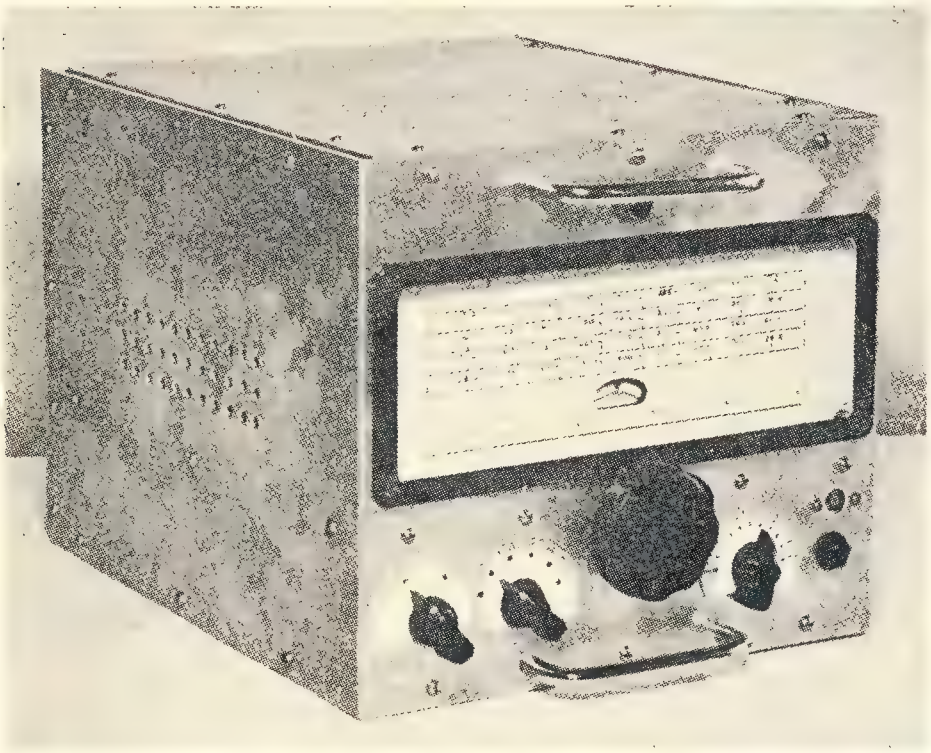
FREQUENCY RANGE OF THE OSCILLATOR

Range switching was not considered acceptable, so attention was concentrated on a Clapp oscillator, of which the harmonics would be used on the higher frequency bands. This leaves one with the choice of covering most of the bands with rather poor bandspread, or providing mainly for the 7, 14 and 21 Mc. bands. The latter alternative was chosen, as good bandspread was considered essential; in addition, those three bands were of most interest at this station.

The heart of the instrument was to be the Eddystone 898 dial, the full traverse of which gives 500 scale divisions. It was finally decided to make the calibrated range 3500-3600 kc. and to set the instrument so that this coincided with scale readings of 50 to 450 on the dial. Although the HO would, for convenience, be running on 3.5 Mc., its main function would be on the 2nd, 4th, 6th (and, to a lesser extent, 8th) harmonics. The following ranges would thus be spread over 400 scale divisions:

7,000 — 7,200 kc.
14,000 — 14,400 kc.
21,000 — 21,600 kc.
28,000 — 28,800 kc.

If it is desired to cover the 1.8, 3.5 and 28 Mc. bands adequately, the only real answer seems to be to capacity switching.



The Heterodyne Frequency Meter as described in the article. It is capable of giving a high order of frequency measurement on the h.f. bands, provided the crystal calibrator can be accurately checked against WWVH. The crystal selector and function switches are on the left of the tuning control. The dial and tuning mechanism are of the latest Eddystone design, giving a wide sweep on the scale. Two crystal oscillator frequencies, of 100 and 1,000 Kc., are used and can be brought out separately; the zero-setting knob for bringing the instrument on to calibration is on the right.

CIRCUIT

One EF91 (6AM6), V2 in Fig. 1, is used in a conventional Clapp circuit, and a second EF91, V1, as a Colpitts crystal oscillator. A switch (S1) has been incorporated, so that either the 100 kc. or 1,000 kc. crystal may be switched in, together with their respective bridge condensers. In addition, a diode D has been put into the output circuit to improve harmonic content.

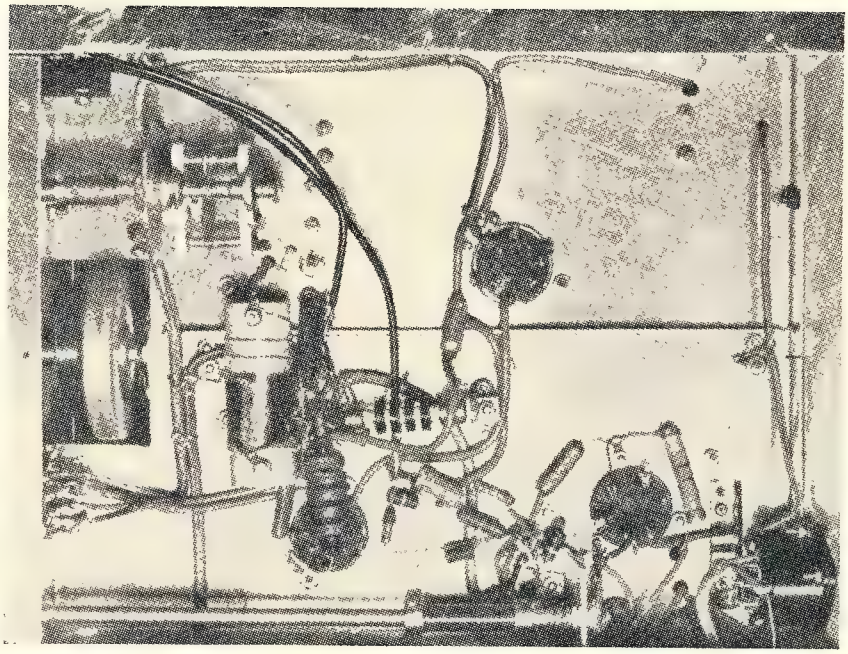
It will be noted that the capacity in the v.f.o. (h.o.) tuned circuit has altogether five components. C8 is the main tuning condenser of 13.5 pF. maximum capacity, while C9 in series with it reduces its capacity swing, and permits exact control of the degree of bandspread. C10 provides most of the padding capacity, and C11 allows a small fraction (about 3 pF.) of the latter to be controlled from the panel, for zero-setting the oscillator. Finally, C12 is the negative-temperature coefficient (n.t.c.) component, which materially improves the frequency stability. The inductance L1 is not adjustable.

At VQ5IB, a 320/6.3 volt power supply is on tap from an outlet on a small receiver, so one 90 volt and one 150 volt regulator tube, V3 and V4 in series, were built into the unit. The crystal oscillator and v.f.o. thus draw regulated supplies at 240 and 150 volts respectively. The total h.t. drain is about 16-18 mA. The function switch S2 controls h.t. as follows: position 1, off; position 2, crystal on; position 3, v.f.o. on; position 4, both on.

CONSTRUCTION

The unit was built into a box 9⅝" wide x 8½" high, and 11½" from front-to-back, constructed from 16 gauge aluminium—see photograph. The width chosen was about the minimum which would take the Eddystone dial. Doubtless each constructor will build the box in his own way, but it was found convenient here to bend one piece to form the front panel and two sides. The chassis (with only a narrow flange), back, top and bottom covers were then made from four separate pieces, fixed where necessary by means of angle strips. This made a good solid job, and the generous dimensions assist heat dissipation and enhance stability. To improve this further, a series of 3/16" ventilating holes were drilled: 208 in the top cover, and 33 in each side above the chassis. A pleasing burnished appearance was achieved by giving the pieces a hard scouring with a power-driven wire brush before assembly.

Components and wiring are straightforward. The main dial is of best quality, and the tuning condenser C8 (13.5 pF.) is also a good quality Eddystone. The other expensive component is, of course, the 100 kc. standard bar, but a first-grade crystal is essential. Apart from these, most of the items were home made or secondhand, in many cases obtained from surplus equipment. Except for C12, Philips concentric air trimmers were used for all padding and trimming functions, as a large number were at hand from stripped 88 Sets.



Under-chassis view of the Frequency Meter, showing general layout. The switch S2 (see circuit) is beside the dial-circuit flywheel, and the zero-setting condenser is above the coil. The power connections are carried in screened leads.

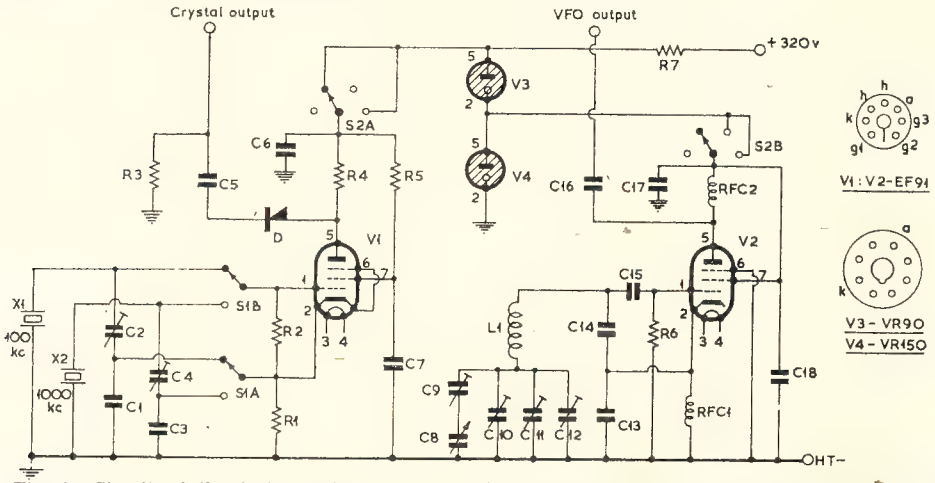


Fig. 1.—Circuit of the instrument described in the article. The circuitry associated with V2 forms the stabilised variable frequency oscillator, the coverage of which can be calibrated to a high degree of accuracy—see text. V1 is a c.c.o. with switched 100/1,000 Kc. crystals for marking and checking the variable oscillator; it can also be used as a separate 100/1,000 Kc. marker, giving band-edge and calibration beats into the receiver.

C1, C13, C14 — 0.001 μF., silver mica.
C2, C4, C10 — 60 pF. trimmer (two Philips concentric trimmers in parallel).
C3 — 220 pF. tubular ceramic.
C5 — 6.8 pF. tubular ceramic.
C6, C7, C17, C18 — 0.01 μF. bypass type.
C8 — 13.5 pF. variable (Eddystone 580).
C9 — 3/30 pF. Philips concentric trimmer.
C11 — 2 or 3 pF. variable (see text).
C12 — 7/45 pF. trimmer, negative coefficient (N500).
C15 — 100 pF. silver mica.
C16 — 15 pF. silver mica.
R1 — 10,000 ohms, ½ watt.
R2, R3 — 0.5 megohm, ½ watt.
R4 — 22,000 ohms, ½ watt.
R5 — 100,000 ohms, ½ watt.
R6 — 68,000 ohms, ½ watt.
R7 — 5,000 ohms, 5 watts.
S1 — Two-pole, two-way wafer type.
S2 — Two-pole, four-way wafer type.
RFC1 — 1.5 mH. r.f. choke.
RFC2 — 2.5 mH. r.f. choke.
L1 — 45 turns 26 gauge enam., close wound, plus 3 turns winding length ¾ inch. Wound on 1 inch diam. ceramic former (see text).
X1 — 100 Kc. standard crystal.
X2 — 1,000 Kc. crystal.
D — General-purpose diode, OA81.
V1, V2 — EF91 (6AM6).
V3 — VR90.
V4 — VR150.

The crystal oscillator trimmers C2 and C4 (two Philips condensers each) are soldered through small silvered strips, which are then mounted on a perspex bridge over a slot in the chassis. C2 and C4 are thus isolated from each other and from chassis.

The zero-setting capacitor C11 needs to be only 2 or 3 pF. maximum capacity, so a little surgery was performed on an old 50 pF. variable. All except one pair of plates were filed off; these were bent a little farther apart, and the capacity was finally brought to a suitable value by soldering on, in series, a sub-miniature 4.7 pF. tubular ceramic.

The coil is wound with 26 gauge enamelled wire on a 1" diameter ceramic former, such as those found in 21 Sets. Some of these have wide-spaced spiral grooving: the tendency of the wire to slip into the groove was overcome by first covering the former with thin (0.01") polythene. Some experimenting was needed in the number of turns, but the size finally arrived at was 45 turns close wound, plus 3 turns spaced out over ¾". The purpose of the 3 wide-spaced turns was to bring the wire to the end of the former, as this is made with the fixing holes at the extreme ends. After completing adjustments, the turns were anchored with polystyrene cement. The finished coil was mounted under the chassis on two short pillars, consisting of 4 BA bolts with nuts and locking washers.

The power supplies at 320 and 6.3 volts were brought into the back, through a recessed (safety) six-way socket, obtained complete with plug from a 38 Set. (These ex-Army units are extremely useful as a source of bits and pieces!) The output from the two oscillators is brought through low value fixed condensers to suitable connectors on the front panel, such as coaxial sockets or jacks.

SETTING UP

When using the crystal oscillator, e.g. when zero-setting the h.o. or calibrating, it has been found convenient to connect the crystal output socket to the receiver aerial socket. On the other hand, when using the oscillator as a frequency meter, it is often unnecessary to make any connection to its socket. It beats satisfactorily with incoming signals, or with the exciter unit of the transmitter.

After warming up the instrument for about half-an-hour, the station receiver was tuned to the 15 Mc. transmission of WWVH. With the crystal oscillator running at 100 Kc., trimmer C2 was adjusted to pull the frequency into zero-beat with WWVH during one of the unmodulated periods of transmission. The 1,000 Kc. crystal was then switched in and a similar procedure followed, using the trimmer C4. The two trimmers were then fixed with sealing compound.

The heterodyne oscillator was next adjusted for frequency and bandspread. With the help of the crystal oscillator, the receiver was first tuned to 7,000 Kc. The n.t.c. condenser C12 was set to about one-quarter capacity and left there during this series of adjustments. The series condenser C9 was set nearly at maximum, the main tuning dial at exactly 50, and the zero-setting control C11 at about 60% of full scale. The h.o. was then switched on and the padding condenser C10 adjusted to bring the frequency to that of the receiver. Then, with the h.o. and crystal oscillator both on, the zero-setting control was used to zero-beat the oscillator with the 7,000 Kc. crystal harmonic. (Note that it is necessary to bring the h.o. close to 7,000 Kc. before putting the crystal oscillator on, as otherwise zero-beats can be obtained with the oscillator tuned to the wrong 100 Kc. harmonic, even though the receiver is on 7,000 Kc.)

The main tuning dial was then set at exactly 450, and the receiver used to determine whether the oscillator frequency was above or below the 7,200 Kc. crystal harmonic. In accordance with the result, the series condenser C9 was slightly reduced or increased respectively. This whole process was repeated until the heterodyne oscillator was accurately zero-beat on 7,000 Kc. at a dial reading of 50, and accurately zero-beat on 7,200 Kc. at a dial reading of 450. C9 was then fixed with sealing compound.

TEMPERATURE COMPENSATION AND FINAL TRIMMING

The setting of the n.t.c. condenser C12 has to be done before the main trimmer C10 is finally set and sealed, because it forms part of the total padding capacity. The procedure adopted with the original model was as follows:

The n.t.c. trimmer having already been left at about quarter-capacity, the main dial was set at exactly 50, the functional switch at "both" and the power supply switched on. As soon as oscillation started (about 15 seconds), the zero-setter was used to bring the h.o. to zero-beat on 7,000 Kc., the time recorded and the instrument left running. At intervals, the main dial was altered to restore zero-beat, and the time and exact dial reading (estimated to 0.1 division) recorded. Suitable times were every five minutes during the first half hour, every 10 minutes in the second half hour, and thereafter every 15 minutes up to a total time of about 2½ hours.

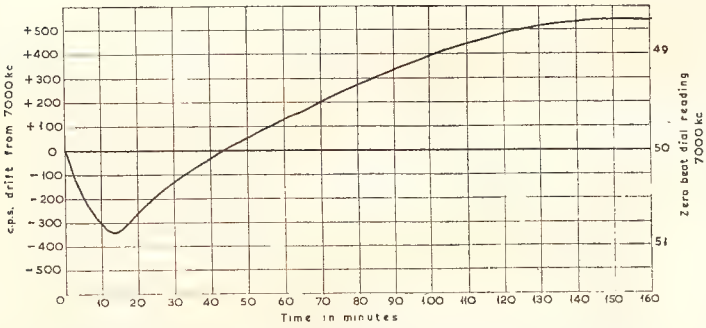


Fig. 2.—The drift characteristic curve of the crystal-checked heterodyne frequency meter, in conditions as described in the text. As explained in the article, the shape of this curve can be varied according to the adjustment of the negative coefficient condenser. When a long warm-up run is possible, it is sufficient to check the scale against the crystal standard as readings are taken.

The character of the drift can best be seen from a graph of the results, and one such example is reproduced here (Fig. 2). If the zero-beat reading goes appreciably above 51, or if it continues to rise after about the first 25 minutes, more n.t.c. capacity is probably required. On the other hand, if the zero-beat reading does not rise initially in the manner shown, or if the subsequent fall brings the reading much below 48½, there is probably too much correction. The n.t.c. trimmer would then be adjusted in the appropriate direction and a new test carried out.

Readers not wishing to perform these experiments may obtain a simpler check. The instrument is switched on as before, the dial set at exactly 50, and the h.o. zero-beat on 7,000 Kc. It is then simply left running for two hours. At the end of this time, the dial is reset for zero-beat, and the reading noted. If this is above 50, the instrument requires more n.t.c. capacity; if it is less than 48½, the n.t.c. capacity needs reducing. After making the necessary adjustments to C12, a new check is carried out. The instrument should, of course, be allowed to cool right down between tests.

When the drift test is satisfactory, the ceramic trimmer is left, the main dial set at 50, and the zero-setting control put at 60% of full scale. The main trimmer C10 is adjusted to give a zero-beat on 7,000 Kc. and may then be fixed with sealing compound.

CALIBRATION

The v.f.o. is conveniently calibrated by running the receiver on the 28 Mc. band, and picking up each 100 Kc. harmonic of the crystal from 28,000 to 28,800 Kc. The heterodyne oscillator is first zero-beat on 28,000 Kc. with the tuning dial at exactly 50; at each of the subsequent 100 Kc. points, the zero-beat dial reading is accurately recorded. In addition, by tuning the receiver to the 21 Mc. band, four further calibration points may be picked up, corresponding to fundamental frequencies of 3516.6, 3533.3, 3566.6 and 3583.3 Kc. From the 13 points so obtained, a graph of frequency against dial reading is constructed. In order to do this, it is strongly recommended that a "flexible curve" be obtained to assist in the drawing. If this is used, and adequate care and patience exercised, a perfectly smooth and highly accurate curve can be drawn—see Fig. 3. For this purpose, the flexible curve is far better than sets of "french curves".

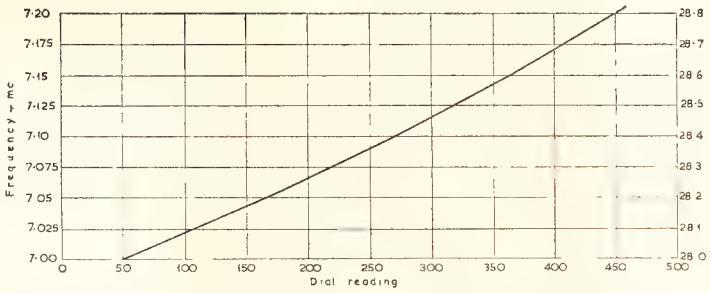


Fig. 3.—The final calibration curve of the crystal-checked heterodyne frequency meter, as described in the article and shown in the photographs. From this basic curve, obtained from a specimen instrument constructed on the principles given in the text, graphs can be produced covering the higher frequency bands. Accuracy is limited only by the extent to which the crystal checker can itself be adjusted to zero-beat with some external frequency standard, such as WWVH.

DISCUSSION OF RESULTS

The 100 Kc. crystal was easily set to zero-beat with WWVH, and required about the expected amount of trimmer capacity (50 pF.). The 1,000 Kc. crystal obtained from the 48 Set, however, proved to be slightly inaccurate. After adjusting the trimmer as low as possible, it was still running 1.3 Kc. low on the 15,000 Kc. harmonic. The rotors were therefore removed altogether from the trimmers and this slight error accepted since, in any case, its main function is to provide 1,000 Kc. identification points.

Some initial trouble was experienced in getting the heterodyne oscillator to go off satisfactorily, and the cause was eventually traced to wrong constants in the tuned circuit. The dimensions of the coil had been worked out "according to the book," but L/C ratio actually present proved to be too high. After the coil had been pruned to the size given here, all was well.

(Continued on Page 18)

A CLOSE-UP ON AWV

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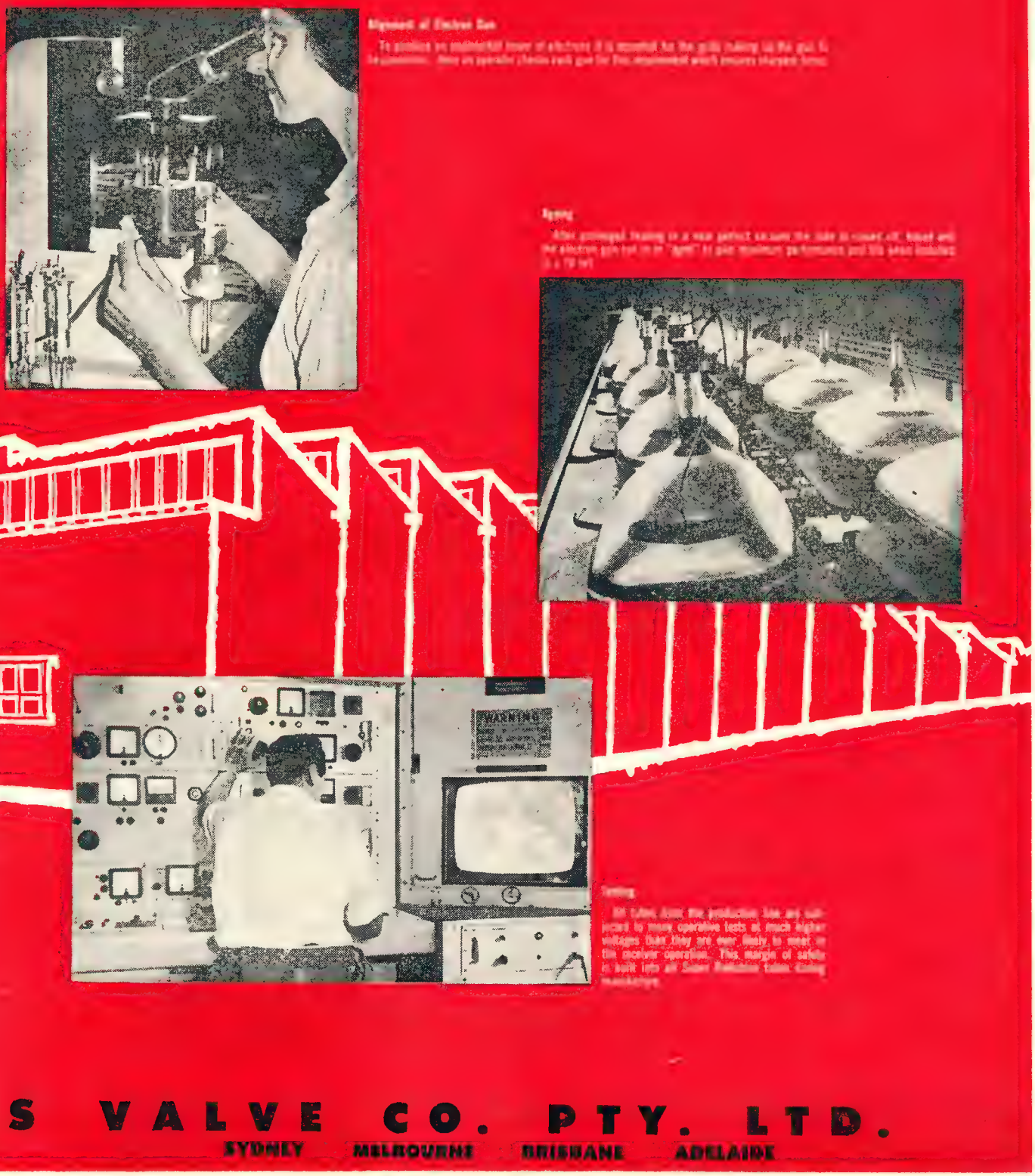
A general view of the treatment system. On the right an operator prepares to internally coat certain areas of the bulb with colloidal graphite mixture. This ensures good connection between the anode button and the internal aluminium coating and the electron gun.

AWV

AMALGAMATED WIREL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Adjustment of the bandspread to exactly 400 scale divisions was quite straightforward and, when the setting was correct, the series capacity was estimated to be about 27 or 28 pF.

Calibration was also very satisfactory. The final calibration graph is reproduced here and does not suffer from cramping at any part of the scale; in fact, it is quite a pleasing approach to a linear relationship. For convenience in use, it is useful to enter on to the station calibration chart the 7, 14, 21 and 28 Mc. frequency scales. One minor, though interesting, feature is the slight reversal to a sigmoid shape which occurs near the top of the curve. At first, this was thought to be experimental error, but calibrations under other conditions gave the same indication. It was finally confirmed by an extra frequency observation at a dial reading of 500 (shown in the dotted portion of the graph). Calculations by the author have confirmed that this is not an effect caused by the presence of series and parallel capacitors, in association with the tuning condenser. The latter is nominally a straight-line-capacity type, but it is suggested that, as it nears its minimum, the approach of the unmeshed end of the moving vanes to the stator will slightly diminish the rate of decrease of capacity. This effect would be confined to settings near the minimum and would cause the peculiarity referred to. Over the calibrated range, there is no detrimental effect on the linearity of the curve.

The aspect which the author found most interesting was the effect of temperature on stability, and altogether 14 drift experiments were run. It is not necessary to give details of all these, but the main findings are summarised below.

The accompanying graph, Fig. 2, shows the drift characteristic in the final arrangement. The zero-beat dial reading, also the drift from the original 7,000 Kc. (dial maintained at 50), are shown plotted against time. During the first 40 minutes or so, the drift peaked to about —300 cycles and returned to zero. After that, it continued in a positive direction, reaching +500 cycles at about 130 minutes, when it flattened off and the frequency remained more or less constant.

When no n.t.c. capacity was used, the drift went continually more negative, and after only 30 minutes had reached —2.5 Kc. On the other hand, when larger amounts of n.t.c. capacity than that corresponding to the graph were introduced, the initial "valley" diminished or disappeared. The subsequent rise was then greater, reaching values of more than +1.5 Kc. The conditions illustrated by the graph therefore represent the best compromise, if one wishes to be able to use the meter soon after switching on. The graph shows that, for this degree of correction, if the meter is zero-beat as soon as it starts to oscillate, and is also reset once to zero-beat after running about 80 minutes, it can be used the whole time after switching on, and will never be more than about 250 cycles in error (on 7,000 Kc.). That maximum error could be further reduced, of course, if one elected to carry out any extra zero-setting adjustments.

The above is the author's preferred approach but, if one wished, slightly less n.t.c. correction could be used, so that the eventual rise in frequency would be less. The initial "valley" would then be greater, and the instrument would only be usable after that stage had been passed. In the author's final arrangement, the n.t.c. trimmer had been adjusted to an estimated value of about 13 pF. (using type N500 trimmer).

To conclude the work, observations of temperature were made at two places inside the box: one close to the crystals, and one near the tuning condenser and ceramic trimmer. The temperature before use (and the room temperature) was 24°C. (75°F.). In five hours continuous running, the temperature only rose to 33°C. near the crystals, and 32°C. near the tuning condenser. No problems other than ordinary drift correction are posed by this nine-degree rise, and the 100 Kc. crystal would not change by more than 100 cycles at 7,000 Kc. (1½ cycles at the fundamental). ●

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SIDEBAND TOPICS—*BUD POUNSETT,* VK2AQJ*

MODIFICATION TO HIGH FREQUENCY FILTER

February "A.R." contained quite an amount of information on crystal filters and filter crystals. Arie Bles has sent along some further contributions to help you along the way to s.s.b.

Arie refers to the high frequency crystal filter appearing in "Amateur Radio," Feb. 1963, page 9, Fig. 2. It has been found that the shape factor of the hybrid crystal filter can be improved considerably by the simple addition of a small trimmer across the input crystal F2 (see diagram, Fig. 1). The effect is a steepening of the high frequency side of the passband curve. Too much capacity will make that slope near vertical, but a new lobe higher in frequency will appear outside the normal passband. The proper setting therefore for this trimmer is only a few pF., say 5 to 10 pF. maximum, just enough to get the proper symmetrical passband without introducing a new filter lobe.

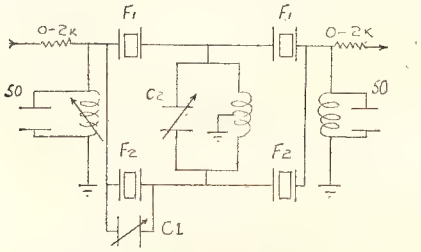

Fig. 1.—Crystal Filter.

To tune the filter, tune for maximum output on $\frac{1}{2}$ ($F_1 + F_2$), set C1 at minimum required capacitance for symmetry in the band pass. Adjust C2 for flat top of the band pass.

USING THE 5 Mc. FILTER

The transmitter block diagram (Fig. 2) and frequency table should be self-explanatory. A simple but very effective transmitter can be planned with a high frequency crystal filter. The use of overtone crystal oscillator frequencies to convert to intermediate frequencies higher than the operating bands will prevent a lot of trouble with spurious responses, birdies, unwanted mixing products, etc. With the frequencies as indicated, all three bands will tune the same way and only one v.f.o. range is required.

Those interested who have difficulties in procuring the required overtone crystals can write me direct, as for the crystals required for the filter and carrier oscillator.

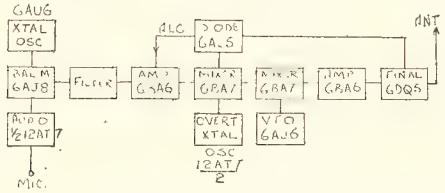

Fig. 2.—Block Schematic of S.s.b. Transmitter.

MECHANICAL FILTERS

Here is some interesting news in this field. We all know of the Collins product and that at least two Japanese firms are producing mechanical filters. One Japanese manufacturer even makes a filter especially for Amateur use at a very reasonable price, especially if you can buy it in Japan.

During a recent conversation with a UA1 in Leningrad, I was told, to my surprise, that the mechanical filter in the UA1's transmitter was a product of the U.S.S.R. No more details were forthcoming but a little more may be learned at a later date.

Next month, I hope to bring you some interesting applications of Collins filters in transistorised equipment.

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17850	—5500 U.S.B.	12350 L.S.B.	5350-5200	7000-7150 L.S.B.
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High Altitude Nuclear Explosion at Johnson Is.

(Continued from Page 7)

weakly approx. 70 minutes after the event and remained very weak throughout the rest of the night.

It is therefore apparent that high altitude nuclear explosions do have an effect on long-distance h.f. circuits. This particular explosion occurred at an altitude of "hundreds of kilometres," probably in the ionosphere upper layers, and assuming the explosion took place on the count-down "zero," i.e. exactly at 0900, the signals from WWVH remained unaffected until nine seconds later. The fact that the signal path between Hawaii and Hobart passes several hundred miles south east of Johnson Island may help to account for this.

In the meantime, the next explosion is awaited with much interest so that further observations can be made. ●

— . . . —

Phasing-Filter S.b. Generator

(Continued from Page 5)

In many phasing-type transmitters, even when the carrier-suppression controls are set to the optimum points, there is still a lot of residual signal. This is caused by the generation of low-requency sidebands by the ripple frequencies of the high-voltage supply. Even when the last audio tube is removed, where parallel feed is used there still remains a circuit through which these low frequencies can circulate and so introduce sidebands at the ripple frequency in the output. Since the phasing system cannot suppress these low-frequency sidebands, it is essential to use maximum filtering in the power supply. A good double-section filter has been found necessary.

It is felt that the combination of phasing and filtering gives such good results with a minimum of pitfalls that it is well worth consideration by any home constructor. It is capable of results equal to those of any commercial unit, and the exciter will test the selectivity of any receiver. Best of all, the results are easy to duplicate as attested to by the fact that several successful conversions have been made.

Acknowledgments are due to KH6BCX who suggested the dual system so long ago that he will probably have forgotten about it; to VK2AJZ who constructed the "Package" on which all of the original experimental work was done; to VK2AST who complicated the subject by introducing mathematics; and to all others who can see any evidence of their work in this unit. ●

P.A.C.C. CONTEST, 1963

V.E.R.O.N. (Vereniging Voor Experimenteel Radio Onderzoek in Nederland) invite Amateurs all over the world to take part in their seventh P.A.C.C. Contest. The main purpose of their annual contest is to help Amateurs obtain the well known P.A.C.C. Award, for which QSLs or other written confirmation are needed of 100 different PA/PI stations.

Applicants for the P.A.C.C. Award will NOT have to submit PA/PI QSLs for QSOs made in the P.A.C.C. Contests, provided that their P.A.C.C. contest logs are in the possession of V.E.R.O.N's. contest manager. If your PA/PI QSLs plus your P.A.C.C. Contest QSOs complete the 100 different worked PA/PI stations, you may send in your application, with QSLs, contest log details and three I.R.C's. to the V.E.R.O.N. Traffic Bureau, P.O. Box 9, Amsterdam. The contest logs of the applicants will then be cross checked against the contest logs of the PA/PI participants.

There now are also stickers available for 200 and 300 different PA/PI stations worked. (P.A.C.C.-200 and P.A.C.C.-300)

RULES

1. **Contest Periods: C.w.:** April 27, 1963, from 1200 G.M.T. till April 28, 1963, 1800 G.M.T. **Phone:** May 4, 1963, from 1200 G.M.T. till May 5, 1963, 1800 G.M.T.

2. **Frequencies:** All bands between 1.8 and 30 Mc. may be used. Cross band contacts are not valid. (Attention: PA stations on topband are only licensed to operate between 1825 and 1835 kc.!)

3. **Procedure**: Stations outside of the Netherlands will call "CQ PA", whereas PA/PI stations will call "CQ P.A.C.C.". Stations will exchange a six (five on phone) digit control number consisting of RST (RS) and the serial number of the QSO, starting with 001. PA/PI stations give after this control number two letters, indicating their province. The provinces are as follows:

GR, Groningen; GD, Gelderland; ZH, Zuid-Holland; FR, Friesland; UT, Utrecht; ZL, Zeeland; DR, Drente; NH, Noord-Holland; NB, Noord-Brabant; OV, Overijssel; LB, Limburg.

4. **Points:** Each QSO, confirmed by "R" or "OK", counts 3 points, 2 points are earned upon receiving the control number correctly and 1 point upon receiving the "R" on the transmitted control number. Unconfirmed QSOs may be completed by working the same station a second time. Each station may be worked only once per band.

5. **Multiplier:** For stations outside of the Netherlands, the provinces give one point per band for the multiplier, thus the maximum obtainable multiplier is 55..

6. **Final Score:** The final score is the sum of all QSO points from all bands, multiplied by the sum of all worked provinces/countries on all bands.

7. **Entries:** Multiband operation for stations outside of the Netherlands only.

8. **Certificates** will be awarded to the highest scoring stations in each country/district for c.w. and phone.

9. **Contest Reports:** The logs have to be filled-in as follows: (1) Date and time (G.M.T.), (2) Stations worked, (3) Province worked, (4) Multiplier column for each band (fill in multiplier only if it is a new province), (5) Transmitted control number, (6) Received control number, (7) points.

Logs must be postmarked no later than 15th June, 1963, and have to be sent to Mr. P. v. d. Berg, PA0VB, Contest Manager V.E.R.O.N., Keizerstraat 54, Gouda, The Netherlands.

Each log has to be accompanied by a signed statement that the participant has observed the contest rules as well as the regulations for Amateur Radio in his/her country. In cases of dispute, the decision of the V.E.R.O.N. Contest Committee is final.

☆

Correspondence

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

AWARDS FOR S.W.L's.

Editor "A.R.," Dear Sir,

During 1961 I wrote to the VK Awards Manager seeking information re v.h.f. awards for S.w.l's. and in reply, I quote, "I have to advise there is no certificate issued for S.w.l. reception by the Federal Executive."

At the same time I wrote to ZL land with the same request, and as I had the ingredients for a V.h.f. Award in that country, thought they may have one for S.w.l's. The reply was in the negative, but more hopeful than VK. I quote, "The matter of Awards for S.w.l's. is receiving my attention and I hope to make an announcement by the end of the year."

Early in 1962 I again contacted the ZL Awards Manager and was told that the matter would be cleaned up by June or July of that year, and then it would be a pleasure to attend to my certificate requirements." I have just received a letter saying that my application for the 50 Mc. award will be accepted.

I feel sure that something in the way of an award similar to the "Elizabethan" or an S.w.l. equivalent of the W.A.V.K. could be arranged so as to create an interest for listeners.

New Zealand has made it possible, so why not give a thought for S.w.l. Awards in Australia?

—Chas. Aberneathy, WIA-L2211.

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DID IT WORK?

Mr. L. D. Rickaby, VK4VR, recently soldered together 65 empty beer cans in an attempt to produce a novel form of aerial. The cans were kept straight by placing them in a long wooden trough whilst solder, about a pound of it, was poured in the tops and bottoms.

The finished job was then mounted on insulators and is now adorning Mr. Rickaby's garden at Cooper's Plains, Brisbane.

The Beer Can Aerial is light enough to be held in one hand yet strong enough to stay up without guy wires. The aerial is equivalent to a piece of wire 33 ft. long.

Colin Grells (A3034), who told us about this aerial, has not yet been able to discover whether it has produced the DX results on 7 and 14 Mc. expected of it.

—Reprinted from the R.S.G.B. "Bulletin," December, 1962.

— • • • —

Going to Auckland in June?

The New Zealand Association of Radio Transmitters is holding its National Conference in Auckland this year during week-end, 1st to 3rd June.

If any member of the W.I.A. anticipates being in Auckland during this period they can make further enquiries from the Conference Secretary (Mark H. Churton, ZL1TB) as soon as possible at P.O. Box 9152, Auckland, N.Z. The registration fee is £N.Z.2/10/0 for the week-end's activities.

— • • • —

VK3 RECEIVER FUND

The Victorian Division of the Wireless Institute of Australia wish to thank the following donors who helped to contribute towards the cost of the Collins receiver for use by VK3WI:—

R. A. Anderson, VK3WY.

F. Bail, VK3YS; J. Bail, VK3ABA; L. Banks, WIA-L3096; A. E. Bell, VK3ABE; W. J. Bell, VK3WK; W. J. Bennett, VK3EJ; P. K. Bennie, VK3ZDP; R. A. Blake, VK3ZFM; B. Boase, VK3NI; A. Bolton, J. Assoc.; A. E. Budge, VK3BB.

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R. Tandy, VK3KX; J. Tilbrook, WIA-L3114; E. Trebilcock, WIA-L3042; the late W. Tregear, VK3TX; J. Tutton, VK3ZC.

L. Utber, VK3AHU.

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W. Zimmer, VK3AWZ.

FOR BEGINNERS:

HEARING THE GOOD ONES

ALAN SHAWSMITH, VK4SS*

WITH present patchy conditions on all frequencies, it is necessary to have all-band operation so that one can be listening on the best band at the right time. During the next two or three years, 80, 40 and 20 metres will be the best DX bands. Few if any can erect beams on 7 or 3.5 Mc., so it means we have to extract the most from single or phased wires.

THE ANTENNA

To do this, we must firstly take a look at our allotment and consider its aspects. It is generally believed that the more wire out in space, results in greater r.f. pick-up efficiency. (This definitely proved to be the case in my particular location. Increasing the antenna length from 136 feet to 264 feet brought the weak signals, both on 3.5 and 7 Mc., right out of the hash.)

There is only one way to erect 264 feet in the average allotment, that is to have some of the long wire vertical and some horizontal. This is an advantage; if the antenna is to be used for transmitting as well, then the vertical section provides optimum angle of radiation.

The immediate question to ask about this is, does not such a length pick up QRN, etc. (Here again I can only answer for my particular location.) The answer is, no, when the wire is centre fed and resonated by an antenna tuning unit. This latter is a must, if one is to extract the most from a long wire. However, there is no place for dogma here, as each must find the antenna that best suits his needs and location. Generally speaking, then, it is best to get as much wire up, in clear space, as your allotment allows. In this way, too, directional effects are minimised.

One comparison can be made, for instance. For transmitting, a 7 Mc. ground plane antenna would be just as good as 260 feet long wire, well up, but this latter will hear the weak ones when there is only QRN on the g.p.

FIRST R.F. STAGE

So much for the antenna. The next important link in hearing the weak ones is the first r.f. stage of the receiver. It is here that the proportion of noise to signal is established. Each type of r.f. tube must be treated individually on its merits to see that it is doing its best. Many run this stage with 300/120v. plate and screen, and bias a little low, in order to get out the most.

PROPAGATION

Before we go on to the optimum listening times, it is well to get the propagation picture clear for the various bands. Old Man Sol is sleepy at the moment. Sunspot activity is low, so a rough forecast for the bands during 1963 would be like this:

28 Mc.: A wash-out, generally speaking. During the pre-winter months there may be openings to the tropic areas, mostly Pacific, brought about by E layer influence. However, during the winter, this, and to a lesser degree 21 Mc., will be devoid of DX signals.

* 35 Whynot Street, West End, Brisbane, Qld.

● Last year the author (Sub-Editor of the DX page) received more than one letter complaining that very little of the choicest DX could be heard. Why is it that some can pick up the best prefixes each month while others cannot? The latter usually blame their location, antenna or receiver, but this in fact is really only about half the reason, as many with only mediocre sky-hooks and receivers make out fairly well.

21 Mc.: This band has prospects during the daylight hours. Pre-winter, there should be openings to the north and east, any time after dawn, but little after dark.

14 Mc.: This band has always been the DX man's "cup of tea". It is a 24 hour band, often, and long haul DX can be had at various hours. However, during winter the band becomes almost dormant at night and reverses itself during mid-summer, when it is best around midnight and worst at midday.

1.8, 3.5 and 7 Mc.: These are night bands. Once the sun is up, the DX disappears, both summer and winter. While the smooth sunspot number is so low, these bands are expected to improve, as far as DX is concerned. So for the next few years, if 14 Mc. falls off in activity, 7 Mc. might prove to be the best band for DX.

OPTIMUM LISTENING TIMES

Half the best DX is missed by listening at the wrong times. Conditions cause band openings to vary, so no definite time pattern can be given, but the following may help.

21 Mc.: The pre-winter sequence of signals on this band in the past has been something like this. From dawn onwards the band intermittently opens to the East and Central America areas are prominent. Sometimes also the N/S circuit is operable and J and UA are loud and clear.

Shortly after midday this band has a habit of opening briefly to South Africa and South America, say around 0300-0430z.

During the afternoon Ws are often audible and when conditions are suitable (M.U.F. OK) around dusk signals from anywhere can appear. Europeans sneak through around 0800z.

14 Mc.: In the past this band has been so good at various times during the day and night, there are signals from all continents coming in at the one time. However, dawn usually brings an opening to the North West with Europe at good strength and sometimes L.P. to North, Central and South America. Signals from this last named often travel 18,000 miles up and over via Europe and in darkness most of the way. This is from 1930 to 2200z.

Barring the winter months, 20 mx is usually poor during late morning and early afternoon. But often around 0330z and a little later (just as 21 Mc. does) the band opens to Central and South America. These signals are followed by a L.P. opening to Europe (via the South Pole). This circuit is much affected by solar storms, but nevertheless is fairly consistent when taken over a time period of one year (from 0430z to after dark E.A.S.T.).

The N/S circuit on 14 Mc. is often open day and night, but is usually much better during sunless hours. The N/S path lets signals through from J, and UA, but as the night progresses the path swings further to the West until Europe is audible on the short path. The band usually then reaches its peak some time after midnight (around 1500z), when various good prefixes can be heard from all continents except South America. (This latter is often good around 1030z.) The band suffers from a pre-dawn lull around 1800z when it is almost dead or the signals on it are hard to work.

3.5 and **7 Mc.** are bands with very similar patterns to each other. 40 mx is the first to open to the East when Ws crowd in from 0730z approximately. 80 mx opens in the same direction a little later (0930z). After this, the N/S circuit opens up and J, UA, etc. show up, and are heard on and off through most of the night on 7 Mc. mainly. From 1600z, on both bands, the Europeans begin to show up, although they are hard to work on 80 mx. They are easier on both bands around 1930z. Sometimes the 7 Mc. band opens to Africa from 1700z on to dawn and also a L.P. circuit to North America appears around 2000z quite frequently.

For those who want some "snatch" times to hear DX, I suggest they "case" the bands just after dawn or just before dark. 80 mx through to 15 mx are prone to suddenly becoming good at these hours. Also, the time of 1030z (give or take an hour) is excellent. Signals appear from the Americas from VO2 in the north to VP8 in the south. That is almost from Pole to Pole.

All times given are GMT.

APPROACH TO LISTENING

An attitude of impatience or haste is a sure way to miss DX—and unless one tunes very slowly, it is easy to pass over a weak signal that momentarily had dropped into the hash. It is better to listen for a while on a segment of the band rather than swing the dial over the lot. On 7 Mc. particularly, many good c.w. prefixes hug the first few kilocycles of the band.

DX is not the S9 business it used to be. Conditions are such that the average signal is much weaker and has to be dug out, so tune slowly. ●

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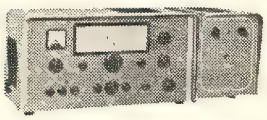

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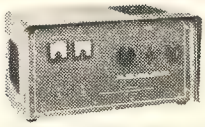

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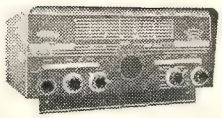

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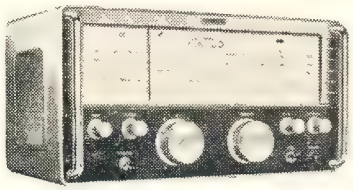

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Sub Editor: ALAN SHAWSMITH, VK4SS (Phone 4-6526, 7 a.m.-4 p.m.)
35 Whynot Street, West End, Brisbane, Qld.
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

This month's mail bag is a full one. The editorship of the N.C. DX'er has changed hands and the same is about to happen with the Florida DX'er. This change over meant that last month's overseas DX notes were somewhat depleted. But now the machines are now grinding out the latest, with editors fresh in their new jobs. So here goes—

NOTES AND NEWS

Marcus Island: KH6PD/KG6 is now active from Marcus Island. Time is 1945z on 14295 kc. s.s.b. To be active nine months. QSLs go via W2VCZ.

W4QVJ says look for VS9AD/4WI around 7040 kc. from 0330 to 0800z Fridays.

VS9AAA will soon have his KWM-1 back and is planning to send it along to Yemen and Oman with the VS9 boys who regularly go there on assignment. VS9ADZ and VS9AAA said to have been operating from 4W1-NEDXA.

Kermadecs. ZL1ABZ was worked by a number of F.D.X.C. members during the phone week-end of the A.R.R.L. DX Contest. He is heard in Florida with strong signals from 0200-0500, 14292 s.s.b.

Cocos Keeling. VK9LA is on at last with s.s.b. Frequency around 14100-14115, 1200-1400z. ZS6IM is a pilot on a South African to Australia run, with a stop-over at Cocos. He is occasionally active on s.s.b. as VK9ZS.

Afghanistan: YA1AW is still active on 14266, 1300-1500. Do not QSL direct. He will QSL 100 per cent. on return to U.S.A.

Jersey Island: The recent A.R.R.L. ruling re the splitting of the Channel Islands for D.X.C.C. purposes has sparked interest in the GC scene. Eric GC2FMV has been active on 20 mx c.w. from Jersey. G8KS is going to Jersey to operate as GC8KS on April 13 to 15. S.s.b. to be on 14110 kc., listening 14260 kc. and up. Also 21435 kc. C.w. operating frequency will be 14010, listening 14020 up, and 21020 listening 21040 and up. QSLs go via G8KS with I.R.C./S.A.E.

Ascension Island: Chuck W5SWX and John W7AAY are still quite workable as ZD8DW. They are usually on around 1930z on 14337 kc. At 2200 GMT they QSL to 14134 kc. for DX contacts and then QRT at 2230z.

Christmas Island: Don VK9DR is now radio officer on Christmas Island. He has a 200 ft. tower, a 150 watt tx and is ready to go.

Mongolia: Leo UA3CR is due to be on s.s.b. for a year from JT1, starting around 1st March.

Another disappointment: Florida DX Club's DX-pedition to San Felix Is. CE0XA will have to be postponed. No future date has been set. The big hold up is the rental of a boat from Chile to San Felix (550 miles to the West) and back.

Maldives: VS9MB can usually be found on 14102 kc. s.s.b. every day at 1730 GMT.

Ifni: There is a possibility that DL1VR/EA9 will show on 14280 kc. s.s.b.

Trindade: PY4AS and company have postponed their trip until June or July.

Announcement is made of the deletion to the A.R.R.L. Countries' List of Eritrea. Contacts made with Eritrea Nov. 14, 1962, and after, will be creditable as Ethiopia. Announcement is made of the addition to the A.R.R.L. Countries List of Bouvet Island. D.X.C. credit may be obtained after May 1, 1963. (All the above notes by courtesy of Bev Cavender, W4CKB, of Florida DX'er.)

KC6BO is active from the Western Carolines (yes, Western). QTH is Koror Is. It is a club station and the antennae sits atop of a 200 ft. mast. The sig usually is S9 plus on 14280 s.s.b. and 14100. Send cards to Page Engineers' Radio Club, Koror.

OK3EA provides the information that 4W1AA is most likely a pirate. The latter is supposed to be ex-OK1PX, but there never was such a call according to the records. (We can only wait and see.)

ZS1OU is going to Marion Island if he can get leave. The call will be ZS2MI during April. (No other information.)

Barthelemy Island 5B7A. This expedition is tentative. Plans are incomplete. There are transport difficulties (as always). Freqs. 14100, 14125 s.s.b. If it gets started and you manage a QSO, then QSL P.O. Box 3786, San Juan, Puerto Rico.

TL8AC has had his holiday in France and is supposed to be active again. Has anyone worked him? Modes and bands: a.m./c.w. and 14 and 21 Mc.

ZK1AFF is very active but getting a QSL is hard. He asks that you send your card to Box 77, Tirana. Send it in a plainly addressed envelope, being careful not to mention the word radio or amateur on it. (Sounds so cloak and dagger and fettered.)

YK1AK is still active and has a good sig even though it's T8. 14050 at 1400z.

The above kindly supplied by the California DX'er. New editor is WA6TGY—Joe Reisert, San Jose, California.

5R8CM had planned to be active from the Comoros Is. by now.

AP5DC is on 14330 kc. s.s.b. at 1000z.

LA9FI/P and LA9RG/P are both working from Spitzbergen. 14252 s.s.b. and 14330 s.s.b. around 1200 to 1300z.

FG7XT is very active around 0800z on 14300 and works 3795 kc. approx. 2230z.

The following work 80 mx s.s.b.: FG7XT, VP9BN, SV0WT, KV4CI, KP4CK, HP1JM, 3V8CA, UC2AA, MP4BBW, etc.

PA0 stations are only allowed to operate 160 mx by special permit.

The above was gratefully received from the Traffic News supplied by ON4MC. The language of the paper is French, so my English translations are bound to contain some mistakes. Their propagation prediction is interesting isasmuch that the chart shows tres bonne conditions from Europe to VK on 21 Mc. around 0800z to 1300z. (This will alter as winter approaches.)

AMONGST THE LOCALS

Bram VK5AB reports that his planned trip to VK4WE, Willis Island, and other exotic places may not eventuate. He is awaiting equipment from overseas. He has made all the arrangements he can from this end, but is now awaiting for those in the States to fulfil their obligations. Only those courageous enough to make these trips know of the detailed planning and the many obstacles that appear to mar or hinder a successful venture. We all wish Bram makes it eventually.

Arie Bles, VK2AVA says conditions are not as bad as the wailers make it out. He says working Europe on the long path on 80 mx around 6 p.m. is a piece of cake. Besides Europeans QSOed on 80, he also landed these: VR3O, VE7ZM, VE3HF, KZ5LC, and lots of Ws. In a period of less than four minutes he QSOed G8PO on 80, 40, 20 on 24/2/63. He uses a full size g.p. for 3.5 Mc.

Ivor VK3XB has made the 400 mark in WPX. It's unofficial but it makes him second VK. (Nice going, OM.)

Ted VK5JE, our 7 Mc. specialist, has sent his cards away for D.X.C.C. for this band. This is quite an achievement for a QRPer. (Now try and make it on 80 mx OM.)

Hal VK4DO has sent in his last notes for some months. He is off on a round-the-world cruise, taking in the Far East. Hal is a real popular Old Timer, and has been a very regular and helpful contributor to this column for many years. I know everyone wishes him a safe and happy journey.

Rick VK3ARX has a lament. Please, he says, will VK9DR come up on c.w. as many are QRX for him on this mode.

A letter just in from the United Kingdom, by Steve G2BVN, DX Editor, gives the following valuable information. From the U.S.S.R. "Radio" the result of the U.S.S.R. DX Contest show VK5NO with 4470 pts., VK2APK 1554 pts., VK2RA 598 pts. The highest score outside the U.S.S.R. was W9WNV with 26,574 pts. For stations waiting for a QSL from VP8GQ, the QSL manager (G3PAG) has not received any logs since October 26, 1962. When conditions improve, logs will be taken over the air. GD6UW will be the call of the Cambridge University Wireless Society during March 21 to April 2, during a trip to the Isle of Man. All bands on which conditions are suitable will be used from 160 to 10 mx. QSL via the R.S.G.B. The "EX G Net" is now 15.00 on 14,345 kc. and 19.00 on the same frequency for stations where conditions are suitable. The Canadian Section net is now at 14.00 on 14,125 kc.

Ivor VK3XB draws attention to an error on my part re tallying WPX score. He says "CQ" Jan. 1957 states: "There is no question of 'countries' in this award. WPX is simply a tally of valid prefixes. (Thanks, OM.) For complete rules see "CQ" Jan. '62, page 50. Please read carefully before submitting score as certain prefixes are not valid—FF8, FQ8, etc.

ACTIVITIES

Ken VK3TL has re-erected his quad and is pleased with its directivity. He worked on 14 Mc. a.m. HA9OZ, W9WNV/KG6R (Rota), KG6SX in Saipan, 3A2CL (1530), TF2WHP (1225z), SP2LV and many others. On 14 Mc. c.w., DU0DM, FO8AA, HS3PD, W9WNV/K, ON5AX and lots of Europeans.

Darrell L5041 sends in a very comprehensive list which I have precied to the following. Heard 14 Mc. s.s.b.: KR6BP, LU8AV, KC4USE, G2MWB, KG6IJ (Volcano Is.), 4S7LW, KH6PD (Marcus Is.), PZ1AX, VK8NE, PY2CWB, VU-2NR, ZM6AW, UJ8AG, UM8FZ, VK9ZS (Cocos Is.), VK9AT, GI3KYT, GD3GMH, ZS6BS, KC-4USH, KC6BO, KP4CK, VS9MB, AP2AP, OA-4NC, YV5AST, CR9AH, ZL1ABZ (Kermadic), and more.

Hal VK4DO worked these on 14 Mc. c.w.: CR9AH, G3NEO, HS3PD, LU2EN, VS4LL, VS9MB, DU1AN, ZK1AA, VS1LD, OH9NV, KR6ML, UW0JK, etc., etc.

Ivor VK3XB worked the following on 7 Mc. c.w.: DL5EL, HB9FU, OH9QB, YO7DL, UC-2BW, 4X4KK, HA6NI, UD6GW, ZB1CR, VQ2JN, 5X5IU, G5DQ, FB8ZZ, FW8DW and other Europeans.

VK3KS worked CR9AI, EA2CL, OZ3LF, and FW8DW—all on 14 Mc. c.w.

Eric BERS195 heard quite a long list of good ones, here are a few. 3.5 Mc. c.w.: VE-1ZZ, W6BYB, W9WNV/KG6R, and other Ws all around 1230z. 7 Mc. c.w.: AP5JA, CR8AC, DU0DM, HL9TH, HM4AQ, SV0WC, FW8DW, W9WNV/KG6R, and other Europeans. 14 Mc. c.w.: VK1YL, ZK1AR, VE2YU, VK9KK, VK-0VK, VR5SF, 4X4RX, 5B4BP, 5R8CJ, 9K2AD, AP2AR, BV1USB, FR7ZC/J (1300z), DU0DM (1400z), FB8YY, HZ1AB, VE8DX, PJ3AO, KW-6AM, VS9AAA (1500z), 9M2UF (1100z), and others.

Ted VK5JE as usual landed some nice ones. 7 Mc. c.w.: 5X5IU, UC2BW, VQ4IV, VS1LP, I1ZL, FW8DW. 3.5 Mc. c.w.: JA5AJQ, VE1ZZ, VS1LP, KH6AFS, VR5AA, VE4RO, VE6NY and a long list of Ws.

Pete Drew, L6021, says conditions in W.A. are variable with some good patches. Here are some of his loggings: 15 mx a.m.: CR7GJ, EP2AI, MP4TAM, VQ1IZ, VS1LQ, ZS1MW, 4S7BR, 5A5TW, 5R8BX. 15 mx c.w.: 4S7LB, VS1LP, UA0LL, KR6DD. 20 mx a.m.: DU1EH, VR4CB, VS4RS, ZE7JR, 9M2GH, VS1GZ. 20 mx c.w.: DL7AA, VQ8AL, ZL1AFL, 5B4WS. 40 mx c.w.: DJ8IJ, DL4IP, DM2ALN, G3HDA, G5BJ, G5WP, HA3KGC, I1EX, KG6NAA, OK-1BG, HB9ADP, VE6NX, VE7AHG, VS1LP, YO6EX, YO9HC, ZK1AR, 3A2CL, 5B4KG, etc.

Bev. VK4BL lists on 14 Mc. c.w.: CR9AI, CR9AH, DU7SV, RW8DW, KS6AX, HL9TF, OZ8U, SP5AIM, UA6LI, VS9MB, VU2MD, 4S7LB, 9M2UF, VS5CW, VS9AAA, VQ8BI, UW-0IF, UM8KAA, UL7KCR, AP2AR, and many other Europeans, J and W. He also heard good prefixes from all continents.

Please fellows, in future when sending your activties report, list only the better prefixes. Do not misunderstand me, I need every report I can get, but space is a premium, so shorten the lists of Ws, Js, and more common European calls unless they are needed for a specific reason.

ADDRESSES

5X5IU—Box 355, Kampala, Uganda, Africa.
ET3HG—U.S. Embassy, Box 1014, Addis Ababa.
9M2AP—M. A. Loke, Telecons. Dept., Kuala Lumpur, Malaya.
VR5AA—Herb. Chapman, Box 36, Nukualofa, Tonga.
VR2EM—V. Elliot, 11 Votua Rd., Suva.
TF2WHP—Langanes, Iceland. QSL to Air Force Unit, Box 6, F.P.O. 568, N.Y., N.Y.
KG6SX—QSL to KH6FBJ.
W9WNV/KG6R—QSL to W9VZP.
3A2CL—QSL via I1RIF.
OA4PH—P.O. Box 5260, Lima, Peru.
CR9AH—Via W7ZAS.
KC4USE—Via K1MOA.
KH6PD, Marcus Is.—Via W2VCZ.

NEW AWARD

As there is quite a bit of activity on 80 mx and the band should be useable for DX for

(Continued on Page 25)

S W L

OHO, KL7, ZD8, ON4, LZ, FF8, VP8, XW8, 5H3, WO

Sub Editor: J. M. (Mac) HILLIARD, WIA-L3074
57 Gardenia Street, Blackburn, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

Greetings fellow short wave listeners. With the advent of the winter months approaching us the daylight conditions should improve, at least we hope so. With this in mind, now is the time to get that rx or antenna in working order. We complain of poor conditions at times, but how often have you tuned across the band and found perhaps one very strong DX signal on almost a dead band. Which goes to show that the band is at least active in some part of the world. How often have you listened during a Contest and heard the band full of signals? 28 Mc. for instance may not be as dead as most people think. On one occasion your scribe tuned across the 28 Mc. band and heard a South American station at S9 calling CQ, but nothing else was to be heard on the band. I know we are going through a poor period in regard to propagation conditions, but just because you can't hear much, don't always blame the ionosphere.

NEW SOUTH WALES

Don L2022 recently paid a flying visit to Melbourne. At present he is doing a spot of shift work on the local telephone exchange in Albury. Hope you get that QSL from Danny before long Don.

Chas. L2211 has again been hard at it. Just recently he received for the second time in two years, the Elizabethan Award for 50 Mc. Nice work, Chas. In the Ross Hull Contest, Chas. managed a very good score. However a young friend of his has reported a bigger score that may take out the section. Chas. has at last repaired the dial cord in his Eddystone 640 and at the moment is busy shielding his 50 Mc. converter.

Chas. reports that at last the ZL boys have now made available a new award to s.w.l's. This award is for confirmation of all ZL call areas on 50 Mc. Actually this award is the result of much pen work by Chas. The award was, at the time of going to press, made available to Chas., but other claimants will have to wait until the award has been officially sanctioned, but this is only a formality. Congrats to Chas on being number one claimant, and fine work on your behalf.

Now that the ZL boys have made this award available to S.w.l's., we would very much like the W.I.A. to make the VK award available to S.w.l's. There are no doubt some VK S.w.l's. who have heard all States on 50 Mc. (Any claimants?—Ed.)

Recently Chas received his certificate for the 1962 R.D. Contest. Nice going old son.

VICTORIA

You will all be interested to learn that the VK3 Council have made available the AR7 that was formerly used for VK3WI. We would like to thank Council for making it available to the Group. There still remains some work to be done on it, but this will be undertaken by the construction group, under the guidance of Ian Woodman. When the rx is repaired we intend to use it mainly for giving the newcomer an introduction to Amateur Radio. We will also give some of our younger members some idea on how to prepare a report for sending to a station.

The construction nights are still proving popular under the expert guidance of Ian —our Secretary. So if any of you newcomers are interested in the construction side of things, how about coming along to our evenings which are held on the second Friday of each month at 478 Victoria Parade, East Melbourne.

Attention all short wave listeners! The 1963 Short Wave Convention will be on very shortly after you read these notes. The date is the week-end of 6th and 7th April. The venue is Ballarat. On the Sunday we will be going through the local t.v. studios. Also over the week-end we will be visiting a v.h.f. Ham shack as well as a h.f. shack. All in all, a great week-end is assured, so here is your chance to meet your fellow S.w.l. that you have heard about. An open invitation is extended to all S.w.l's. and to any of the Hams who might be interested. See you at Ballarat.

Newcomer to the S.w.l. ranks is Greg. Earl. Greg. has not been issued with an L number as yet, however he recently obtained an HE30 rx and is very pleased with the results that he has obtained with it. His DX log is very good for a newcomer. Greg is using crossed dipoles with a switching system, and is very pleased with the results he has obtained with it so far. When you have become more used to the HE30, Greg., we hope that you will soon have your name on the DX ladder with us. Hope you can get along to some of our meetings Greg., and make yourself known to the boys.

Craig L3093, who is our publicity officer, has been doing an excellent job giving S.w.l. notes over VK3WI each week. But it is up to us all to provide him with some information of our activities, so bear this in mind and drop Craig a line. His address is 10 Foch St., Ormond, phone number is LW 1773. Any news that you can forward will be very much appreciated.

Several years ago, we here in VK3 used to run monthly contests, but due to lack of support we were forced to abandon them. We would like very much to re-introduce some activity along these lines. However it would be a complete waste of time to start them again unless more interest is shown by members. So let us have your ideas on the subject. Remember the S.w.l. Group can only function successfully by each and everyone of us showing a keen interest toward the Group. If you have any grouches, don't just be content to sit back and have nothing to say. We want to hear from you, the member, so don't be frightened to get up and have your say.

At present we have a monitoring watch on the 7 Mc. band. And if this proves popular it will be most encouraging.

QUEENSLAND

We are pleased to hear that our good friend Afton is at last on the improve after sickness and business troubles. Afton reports that conditions up in Northern VK4 have been very poor now for some time. The only QSLs that he has received for many months have taken his total up to 86 confirmed. He is bemoaning the fact that despite the fact that he always includes an I.R.C. and a S.A.E., he is getting very few returns. Yes we all are in the same boat at times. He has an f.b. rx but would like to change it for a rx in the Rolls Royce class, one of these days. Best of luck to you old son, and hope that your dreams come true. Thanks for the good wishes which are heartily reciprocated from this QTH. Very pleased indeed to hear from you again Afton, and give my regards to all the boys.

SOUTH AUSTRALIA

Darrell L5041 has just joined our DX ladder. Very pleased to have you with us Darrell. During the Xmas holidays Darrell was in VK3 and reports hearing all VK call districts except VK6 on 7 Mc. using his transistor portable and a three-foot whip. He also managed to find time to get a few points in the N.F.D. Contest recently, and it is very nice to see a new name on the DX ladder. How about some of you other VK5 boys sending in some news of your activities?

WESTERN AUSTRALIA

Peter L6021 comes forth with another very interesting letter telling of his activities. Peter is using a Pye 8-tube rx as his hearing aid. Also included in the line-up is a Philips 6-tube rx. On 7 Mc. he is using a folded dipole, and on 14 Mc. uses one leg of the dipole. Judging from your reports Peter you are hearing plenty of the DX. So far (until 24th Feb.) he has 12 cards for the month. Thanks for your very nice letter and look forward to hearing from you again next month.

Afton L2136/VK4 has these: VP4, KP4 and ZE7.

73, Mac Hilliard.

DX LADDER

	Countries		Zns.	S.s.b.		W
	Conf.	Hrd.	Conf.	Conf.	Hrd.	Stat.
E. Trebilcock	277	285	40	—	—	50
D. Grantley	112	252	38	16	97	34
A. Westcott	86	159	31	9	107	11
M. Hilliard	71	217	33	16	134	11
M. Cox	64	222	29	31	142	18
P. Drew	49	194	24	17	111	9
C. Aberneathy	47	95	28	—	—	14
N. Harrison	44	94	27	2	7	29
I. Thomas	29	134	18	18	8	22
P. Fields	26	133	—	—	—	—
D. Coggin	9	86	6	2	55	12
H. Burger	6	185	5	1	19	—

YOUTH RADIO CLUBS

Good news from VK7 this month! Ian 7ZZ, Secretary of the VK7 Division, reports definite progress in Youth Radio Clubs in that State. Ted 7EB has been appointed co-ordinator for that Division and is busy seeking co-operation and help in all directions, especially headmasters and teachers. Anybody who wants to keep their frequencies should help you, Ted.

Reg 7ZAO is a teacher at New Norfolk High and has begun the formation of a club there. Merv. 7CL is a teacher at Hobart Tech. High and is giving the idea some thought—some definite help from other locals would bring it about. The headmaster of Hutchins Grammar School has approved the formation of a club, and ex-7SC, a teacher at the Friends' School (Hobart) is investigating the possibility there. The 13th Hobart Scout Group is well on the way and has a call sign. Father Burns, of Burnie Marist College, has a club under way. This college caters for boarders and such a club is sure to be a desirable addition to the spare-time activities of the boys. Father Burns is contemplating the A.O.C.P., but would certainly appreciate some help from Burnie Amateurs.

Congratulations to all in VK7 who are directly helping. I hope all other VK7s will do the right thing and pull out those boxes of parts which have been sitting around for years. I can assure you that it is most important to make the early stages easy. Once the boys "feel the magic" and Dad and Mum find it's not going to cost a fortune, the rest is easier.

A number of lads from St. Leo's College, Wahroonga, attended the Gosford Radio Club's Field Day on Feb. 17. Amongst them was Harvey Smith who has sat for the A.O.C.P. and expects. Also at the Field Day was Ian Forrest (VK2AJF) the first A.O.C.P. from the Youth Radio Clubs, a product of Keith Howard's excellent work at Booragul High. Keith reports that seven ex-members of his club have moved into electrical and electronics vocations.

At VK1LS (Lyneham High) my own activity has been severely curtailed in the last year for health reasons, but the club stalwarts George 1GB, Roger Davis (hoping to get the A.O.C.P. in the next few months), Ian Raine, Bill Tweedie, and Carl Brinkley (son of Tony 1SG) do more than I do—a very healthy state of affairs. Roger has been working hard to plate modulate an AT5 and make it behave itself. George is now in his final year of High School and has sensibly cut down Amateur Radio time to concentrate on study. His goal is a maximum pass and Commonwealth Scholarship leading to B.Sc. As an incentive, I gave him colour illustrations of the latest Collins gear—these are pinned up over his study desk! During the holidays, George constructed a s.s.b. (phasing) tx. By the time you read this, it should be on the air—but at VK1LS! He is donating it to the club station until Nov. so that he won't be tempted to leave his study. What will-power! Anyway, we hope we're the first Youth Radio Station with s.s.b. entirely constructed by one of the boys.

News is hard to get from VKs 3, 4, 5 and 6. Could it be there is none? Surely they can find a co-ordinator—despite the fact that this is all spare-time work. Two very prominent VK3s told me in January that all the Y.R.C. information was neatly "pigeon-holed" and had made no Divisional headway, although a few brave souls had formed clubs.

And here's a challenge for VK5PanSy—instead of talking of "band-wagons" and quoting the isolated enthusiast (whom we salute for bravery), why not find a Y.R.C. co-ordinator for the Division. We haven't heard of one yet.

Provocative 73, de Ken VK1KM.

V H F

50 - 144 - 288 - 576 - 1296 Mc.

Sub Editor: BILL ROPER, VK3ARZ, (Phone 23-9492)
Lot 59, Orchard Street, Mount Waverley, Victoria
ADDRESS CORRESPONDENCE FOR THIS PAGE DIRECT TO THE SUB EDITOR

VICTORIA

50 Mc.: Ken 3ZLL is now active on this band. Ken is running 12 watts to a 6146 on approx. 50.75 Mc. and is using a QQE03/12 as a modulator. Sid 3ZDB at Croydon will soon be re-appearing on the band, but this time will be using s.s.b. Glen 3ZBJ is active again on a month's leave from VK4. When he returns to the Sunshine State he will be located near the VK8 border and possibly will operate from that rare spot a number of times until the first week in December.

Activity, which was very low on 6 mx at the beginning of Feb. is steadily increasing. The Feb. 6 mx scramble was held on Sunday 24th. Unfortunately the control station did not put in an appearance, but the contest finally started with David 3QV acting as control. Only 12 stations competed, including two from the Geelong area. 3QV, 3ASG, 3ZAA and 3ZGM tied for first place in the city section with 8 points each, while 3ZMH won the country section with 9 points. The April scramble will be held on Sunday 28th commencing at 7.45 p.m. Join in.

144 Mc.: Bill 3ZLO has a new rig operating using a QQE06/40 in the final. At first Bill had modulation troubles, but these have now been overcome. Rex 3VL, who normally provides a DX signal from Numurkah, has been holidaying in Melbourne and rag chewing most nights with the local gang. Bob 3ZRD has his Geloso exciter driving an 832A with 25w. input and has replaced his "big wheel" antenna with an 8 element yagi.

The March 2 mx scramble was held on Sunday 10th and over 25 stations participated. Rod 3ZIW drew in the city section with George 3ZJQ, both with 26 points, while Bill 3ZLO was next with 22 points. Winner of the country section was Ian 3ZMH with 23 points, followed by Graham 3ZIX/P with 19 points.

Peter 3ZPC received a letter from Vern ZL3AQ confirming that it was his signals that were heard at R5 S9 in Melbourne on 17th January, 1963.

The frequency of 144.5 Mc. was chosen some time ago to serve as the V.h.f. Group calling and net frequency, but very few Amateurs seem to be using it. A small net sometimes gathers on a Monday evening at 8 p.m., but that is about all. There are numerous advantages for all stations active on 2 mx to be able to transmit on the one frequency. Originally the idea was to leave your rx on 144.5 Mc. while you were working around the shack so that when someone called CQ they would do so on the net frequency and you would hear him without having to continually tune the band. Once contact was established the stations could then change frequency if they so desired. However, there is no reason why the contact should not stay on 144.5 Mc. with other stations joining in to form a net. Naturally by being able to transmit on the net frequency you could break in at any time. Those of you who do not possess a v.f.o. should try and get a crystal on the net frequency.

The annual general elections will have taken place by the time you read these notes and a new publicity officer will have been chosen. Thank you to those one or two people who provided me with news during my brief fill-in period in the job. I hope to goodness the new officer receives much more assistance. Remember, the notes can only be as good as **you** care to make them. 73, 3ARZ.

SOUTH AUSTRALIA

50 Mc.: The 6 mx band has been showing the slight decrease in activity that we expect just after the sporadic E peak. DX was worked on 4th of Feb. and again on the 10th and 11th (VK4s on all three occasions).

Mobile has shown an increase recently, with 5ZDZ and 5LA having mobiles going (and both of these chaps are capable of working cross-band duplex mobile, a very interesting exercise). Other new mobiles include Bart 5GZ and Curl 5CL (formerly 5ZBL). Mobiles are being constructed by Bob 5ZDX and your conductor. These chaps will use 832As and 815s respectively.

New chaps on 6 mx include Mark 5ZEK (50.4 Mc.) and Bob 5RF (a pair of 834s, wow!). Bob is at Murray Bridge (about 50 miles East of Adelaide) and puts a good signal into the city. Wally 5ZEH (50.11) is another newcomer.

Old timers on 6 mx from new locations are manifold, and include Doug 8KK (also on the l.f. bands), Barry 8ZDI. (These two are in Darwin.) Also Brian 5ZBI, now at Clare (30 miles North), Brian looks on 6 mx every evening at 1830 (C.S.T.) with the beam towards Adelaide. Clare is only 50 miles away, but the path is very difficult. Joe 5ZCP, now at Whyalla, has been working back into Adelaide nicely (140 miles).

The 50 Mc. beacon has been running almost continuously over the past six weeks and ground wave reports are coming in from Mt. Gambier (220 miles), Western Victoria (180 miles), Crystal Brook (100 miles) and Yorke Peninsula (50 miles).

144 Mc.: Quite a high level of activity here. Several new country stations have helped the activity including 5ZEG and 5ZMJ of Port Pirie (and both members of the newly formed Port Pirie Amateur Radio Club) and Geoff 2ZCG of Broken Hill. All these chaps have worked into Adelaide with excellent signals.

Rick 5EB is a new local on 144 Mc. He is located at Glen Osmond and uses an 832A.

The chaps down at Mt. Gambier inform me that Launceston t.v. (TNT9) is often copied (three nights in one week recently). This smacks of ducting and the chaps are keen to try 288 and possibly 144 Mc. to the Apple Isle, but no skeds have been organised at the date of writing. These same Mt. Gambier fellows say that our new beacon is heard down there a high percentage of the time (220 miles).

Eric 5ZDQ is building gear for 2 mx. Two metre stalwarts, 5NW (Crystal Brook) and 5BC (Renmark), have been making use of their 6 mx facilities recently to permit many long distance (120 miles) duplex contacts between 6 and 2 mx.

General News: Biggest news here is the annual general meeting of the V.h.f. Group held on 4th March. New officers elected are—President, Doug 8KK; Vice-President, Gary 5ZK; Secretary, Bob 5ZDX; Councillors, Al 5ZCR and Brian 5ZBR. Discussed at the meeting were, firstly, a hidden tx hunt (first in VK5) to be held on 27th April, and secondly a v.h.f. picnic on 31st March.

Recent visitors to our fair State were Ken 3ZKK and Peter 3ZGM. These chaps had mobile gear on 6 and were worked at speed. Gary 5ZGR and Dale 5ZER are Mt. Gambier chaps who have been holidaying in Adelaide. Dale is well and truly involved in woman trouble, but Gary is more or less active, and, in fact, attended the V.h.f. Group meeting on 4th March.

Our newly elected President, Doug 8KK, returns to VK5 in April. For their services over the past year the Group thanks ex-President Gary 5ZK and ex-Secretary Barry 5BQ. 73, Al 5ZCR.

WESTERN AUSTRALIA

Because of personal commitments, the notes for last month had to be shelved. I will attempt to cover them this month.

The **January meeting** was well attended and as reported, it was the first meeting for two months to discuss and act on items of business. John 6JO gave the lecture on xtal filters, clearing up a lot of doubts and giving most of us an insight into their operation and uses. A report was received on the very interesting fox hunt conducted by 6RY, using a different scoring method to determine the winner.

To start you took a mileage reading and filled in a form which was completed and handed in after you found the tx. You counted the number of valves and transistors in the converter/receiver and snoop loop and subtracted these from 100. You subtracted 1 point for any mile or part thereof over the specified shortest route. You added points for the number of people in the car, the number of people who saw the tx and the number of objects you found at the site. As to the latter, there was a tx and three antennae which could be switched and had quite a few of the hands going in circles as the signal appeared to come from different directions just as you seemed to have it pin-pointed.

The **February meeting** was well attended, although the D.C.A. trainees, who are part of the backbone of the Group, are still in the field training. Two new members were welcomed to the Group, Jim 6RU and Harry 6ZBZ are well known to most members. The Feb. fox hunt was run by Bob 6BE and as usual was quite interesting. Lance and Gill won the event and will run the next hunt on 16th March.

The Group station 6VF operated in the National Field Day on 80, 40, 20, 15, 10, 6, 2 and ½ metres. It is a pity that there was no 1 mx gear available as it would have been a clean sweep from 3.5 to 576 Mc. Kevin 6ZCB again supplied his caravan and gear. Jim 6RU, Jack 6BU, Rod 6ZDS and Charles 6LK supplied other gear. David 6DI, Ken 6ZBT and the others of the Field Day Committee did a good job and all in all a good time was experienced by those who participated.

50 Mc. has been very quiet here for the last two months. Quite a few of the stalwarts are D.C.A. trainees and have been to country centres for in--the-field training. The W.I.A. news was relayed on 6 mx for the first time in years and favorable comments were received after the broadcast. Vic 6VK has taken over from Wally 6WG as broadcast officer, following Wally retiring from this position, and he has arranged for Bob 6BE to relay the news on 6 mx. Best of luck to Vic and he can be sure of the backing of the Group in his new post.

144 Mc.: Except for cross band work, this band is almost dead here, very few contacts have been heard for some time.

576 Mc.: Rod 6ZDS and Charles 6LK have succeeded in working a distance of 37 miles from North Dandelup to South Perth. Both rigs were xtal locked and are reported to be working extremely well. This would be very close to a new 576 Mc. record and I believe it will be claimed as one. 73, Alyn 6ZDM.

PAPUA

50 Mc.: VK4s were worked on 2nd, 4th and 10th Feb. Also heard on these days were VKs 1, 3 and 5. Weak ZLs were heard on the 4th and the ZL t.v. sound carrier was also audible during all three openings. No other DX openings were observed during the month. With the decline of the Es season, fewer Channel 2 openings were observed, however ABQ2 was received on 10 occasions, ABS2 and ABN2 each on one occasion.

9AS has returned from leave and is active again from Wewak, New Guinea. 9ZBV has now gone south on leave and will be having eyeball QSOs with many Brisbane operators during the next month or so.

No activity on other bands during the month. 73, Roy 9AU.

DX NOTES

(Continued from Page 23)

the next few years, the following award might interest VKs. Sponsor is SL3ZO, and its title is **80 x 80 Award.** It comes in three classes: (i) 80 different countries on 80 mx. (ii) 80 different prefixes. (iii) 80 QSLs from stations outside one's own continent. Apply to Sven Elfving SL3ZO. Solgardsgat 15, Ornskoldsvik, Sweden. Those needing Russian Call Books can write Sven at the above address.

APPRECIATION

Let me thank again all those who have the Ham Spirit within themselves and take the trouble to send in what information they have. Those who appear in the activity section usually help out considerably with the QTH situation. Thanks, chaps.

My appreciation also to the overseas editors K6CQV, WA6TGY, G2BVN, SL3ZO, OH2YV, W2DEC, ON4MC and others who remember this column each month. 73, Al, VK4SS.

W.I.A. LOG BOOKS
5/6 plus postage

FEDERAL AND DIVISIONAL MONTHLY NEWS REPORTS

(SEND CORRESPONDENCE DIRECT TO DIVISIONAL REPORTER NAMED AT PARA. END)

FEDERAL

27th FEDERAL CONVENTION

The Wireless Institute of Australia's 27th Federal Convention will be held during 12th to 15th April, 1963, at Sydney.

The Convention will be held at the Wireless Institute Centre, 14 Atchison Street, Crows Nest, Headquarters of the VK2 Division of the W.I.A. The Convention will commence at 2 p.m. on 12th April and continue until 15th April.

On 13th April the Convention Dinner will be at the Wentworth Hotel, Lang Street, Sydney, at 7.30 p.m.

Opening of Convention will be broadcast over VK2WI on 7050 Kc. at 2 p.m. on 12/4/63, also a portion of the VK2WI Broadcast on 14/4/63 will be from the Convention.

All members of the W.I.A. will be welcomed.

Pierce Healy, VK2APQ,
Federal Councillor, N.S.W. Division.

MATTERS OF INTEREST FROM W.I.A. F.E. MEETINGS

Copies of some R.S.G.B. publications will become available at reasonable prices in the near future. Details from your Divisional Secretary.

All outstanding awards and certificates have been cleared up, following the appointment of a Federal Contest Co-ordinator within F.E. This has solved the difficulties involved with changes of locale of the F.C.C., often causing records of outstanding awards to become mislaid, or forgotten.

The Federal President will be attending the Civil Defence course at Mt. Macedon next year.

The subject of s.s.b. power ratings has been under study and this, and other matters, will be the subject of discussions with the P.M.G. in the near future.

The Federal Convention, which is to be held in Sydney at Easter, will cover some twenty-two agenda items.

New W.I.A. membership certificates are expected to be available by the time of publication. These are a very fine document of professional quality.

The Federal Station, VK3WIA, is near completion, and should soon be on the air regularly.

In order to ensure that no gaps exist in Federal Councillor's files, they are to be supplied with an index of all items discussed at Federal Conventions since 1947. This will help to avoid the same matters being decided over and over again over the years, as a study of past Conventions will show has happened.

Publication of the "Geneva Story" has been deferred until such time as the necessary stencils can be cut by F.E. members. The reason for this is that commercially produced copies would cost in excess of £10 each in the small quantity required, and it is not felt that this expense would be justified, in view of the limited appeal that this publication has.

RECIPROCAL AWARD JUDGING WITH R.S.G.B.

The steady increase of postal costs, and the danger of valuable cards being lost, has long discouraged Amateurs from applying for overseas awards.

Now the R.S.G.B. has decided that its awards will be available on submission of certified check lists via certain I.A.R.U. Societies (of which the W.I.A. is one) which have concluded reciprocal agreements with it. Such an agreement has been concluded with the W.I.A.

All R.S.G.B. certificates, with the exception of the Empire DX Certificate, and Four Metres and Down awards, but including B.E.R.T.A. (50 commonwealth countries), W.B.E. (1 commonwealth country in each of the five continents), and for s.w.l's. the H.B.E. award (heard 50 commonwealth countries) and the D.X.L.C.A. (heard 100 countries) are available and the procedure to apply is to send to the Federal Awards Manager, C/o. Box 2611W, G.P.O., Melbourne, the following:

(a) The necessary QSL cards.

(b) A check list, showing details of cards submitted.

(c) A declaration and application for award as follows:

I enclose cards herewith in my application for the R.S.G.B. (name of the award) ..... I enclose International Money Order for 8/9 (Australian) for each certificate applied for.
I certify I have not exceeded my licensed power in effecting the contacts on which this claim is based.
Signed ..... Call Sign .....
Address .....
A space must be left for the endorsement of the Federal Awards Manager.

(d) Sufficient return postage for the cards.

On receipt of the preceding, the Federal Awards Manager will verify the application and forward it to the R.S.G.B., who will forward the certificate direct to the applicant.

SILENT KEY

It is with deep regret that we record the passing of:—

VK3WA—John H. Worner.

NEW SOUTH WALES

HUNTER BRANCH

The Feb. meeting of the Branch was held as usual in the University College, but in a different location in the building. For those who know what it is like within the confines of this edifice, the semicircular building, so called, is easy navigation. But for those unaccustomed it is like climbing a convex hill, you can always see the top but you never get there. Anyway some of us got there, thirty-six in all, to see and hear some films kindly supplied by Mullard. These were expertly screened by our T.S.O.C.P. man, Rodney 2CN, ably assisted by Kev 2ZKW. Always keen to keep us abreast of modern developments in electronics, Stuart 2AYF handed out some information concerning series gate modulation and there was, on the board, a circuit of an overtone oscillator for v.h.f.

Some discussion ensued concerning the merits or otherwise of an r.f. choke, but it was kindly pointed out by Gordon 2ZSG that OT's know nothing about v.h.f. and should stick to the d.c. bands. A rather academic discussion concerning the detonation of explosive charges by Amateur Radio transmitters was resolved by Frank 2APO who is an army man and well versed in the science of loud and soft bangs. However it was decided that it would be a good scheme to get some official advice on the responsibility of the Amateur in such matters and by this time advice has no doubt been received.

Your scribe has been responsible for the broadcasts during the past few weeks and Max, our associate friend from out Toronto way has been helping out in reading the news. The problem is whether we are to call him assistant producer or technical co-ordinator. I think the best term would be "the lad". Bill 2XT, who is equipped with much exotic gear now owns a lovely shiny new SX115 all the way from the U.S.A. He has proved that (a) WWV does not drift (b) the new rx does not drift, or (c) they both drift at the same rate and in the same direction at the same time, etc., etc. Still he finds it difficult to copy me. Perhaps it IS my signal.

Up by the banks of the old Hunter at Maitland Kev 2ZKW is currently working on the "Mighty Midget" reputed to be some mysterious form of tuned converter for v.h.f. Some have suggested that he has also joined A.J.A. and future efforts in this direction will decide the issue. Mac 2ZMO now is affectionately known by his mates as "Eddy". This has nothing to do with losses in his transformer. It refers rather to a gain in the rx department. Bob 2AQR has a weak signal out by the lake at the present and this is because he is using all his energy to wind the movie camera for the filming of the F.F.B.R. (Fabulous Phenyle Bay Railway) run by his partner in 40 mx crime, Bill 2ZL.

John 2ZJG is still delving among the mysteries of the one-eyed monsters and surely must be a specialist by now. And while on the subject of specialities, Des 2ZDN is surely a contender for the title of master of v.h.f. since the construction of his mobile 2 mx tx. If you would like to share in his enthusiasm come along to the April meeting and hear Des describe the rig. The battle of the S meters is still progressing satisfactorily in all areas of the Branch. Ian 2ZIF is still not quite sure whether a decrease from 25 to 1/8 watt really causes an increase of two S points and Bill 2ZK was heard giving a signal report the other night in this way: "You are strength 6 old man. Actually my meter reads 9 plus 10 db., but that's still S6 as far as I'm concerned." Bill also has a new vertical aerial. It really is something—a piece of wire tied in the tree at the back of the shack.

As for Les 2RJ, it is he who owns that potent 1/8 watt and he is currently doing modifications to increase something—probably Ian's S meter reading. I am sorry to report that Neil 2ZCU is still in Hornsby Hospital and would appreciate any visitors. VK2 Colossal Signals, as he dubs himself, is almost ready to set off for the land of dart boards and brown ale and is leaving aboard a fine English ship at the end of April. So by sunny July in G land he should be on top band with some of the chums. Stan 2AYL is back from that Gold Coast holiday and is very active on 2 mx, but he has found that the old 522 goes better than the most recent one. Still no sounds have been heard from Norm 2ZNF and if it were winter we might be excused for thinking that he had gone into hibernation. But it's all to do with that AMR300 we're told. Les 2AOR is not quite sure where Norm lives, but if you look over about two fences Les you'll see Norm. One of the boys in the mail room started shouting to Les the other day. When he asked what it was all about, the other chap said, "You haven't got your hearing aid on mate." What really happened was that he'd been listening to the test on the transistor portable with ear-plug.

Bill 2ZWM has two converters going now, one on 2 mx and one on 40 mx. The one he has on 40 will be the subject of a lecture to be given at the April meeting. It really works well into a transistor portable. Since Tony 2ZCT became a tuner of Yiddish pianos nothing has been heard of him on 2 or any other metres.

Some of our younger members are trying out for the youth radio scheme certificates and the other day two were scheduled to turn up at this QTH for the junior exam. One however failed to report. Yes, it was Bill 2ZL who had been held up when one of the pylons on the F.B.R. collapsed. Shame on you. You'll not get your certificate. Stuart 2AYF has gone all commercial you know. I saw, resplendent on his shelf, the other night a s.w.r. meter and a transistor power supply transformer. Well, I ask you. Still he will be on 2 and 40 mobile when the vacation begins and with home-brew gear. You might also know that he and I featured in the Newcastle Morning Herald the other day. Facts are that there was a Civil Defence conference and some person locked the front door of the building. Some, it said, had climbed over the back fence. Yes they were—us.

N.S.W. DIVISION, W.I.A.
NTH. COAST & TABLELANDS

ZONE CONVENTION

will be held at

URUNGA

during **Easter Week-End**

12th to 15th APRIL, 1963

144 Mc. tx hunt, 40 mx tx hunt, all band scramble, general entertainment.

Accommodation of all types available on application to Mr. J. Walters, C/o. Ocean View Hotel, Urunga.

Gordon 2ZSG, who has been doing a good job on the broadcast relay of late, tells me that there is definitely no truth in the rumour that he may be heard on more than one spot on 144. It's just that some people have vivid imaginations. Ron 2ASJ has been very active on 20, 40 and 2 mx so what things will be like when the winter comes—well it looks promising. Ern 2FP has returned from holiday, but will be going again in August, back to the Snowy to see the snow this time. Apparently the doc. has given Jim 2AHT some strict instructions about going on the air so he'll have to postpone the winning of more certificates till he's quite well again. Harry 2AFA has not been the brightest either of late, but if a cheery smile means anything, he should be back on deck and 100 per cent. again soon.

Up Cessnock way things are very quiet and I suspect some plot is afoot to blanket the Branch with large signals. Sherwood has gone to Melbourne for holidays, so watch out you VK3 boys and Chris still has the tape measure in his hand most of the day getting ready for the mobile in the new car. Peter 2AIY is very busy with vertical and horizontal and brightness and that, so there's his excuse. Among the associates, Bruce has built a pre-selector and an oscilloscope—and they work! Also the radio link at Scone demands quite a lot of his attention. Belmont Bob and Ross are busy over old exam. papers and this surely is a good sign. Allen Legge now is a transistor radio specialist—since the a.c. range on the meter went west. The Marmong mob are all pretty busy building and re-building and a brand new windom aerial has appeared. I hope that improves the signal.

You will have herad on the broadcast that our April meeting has been put forward one week because of Easter. It will be held on April 5 at the University College and will be a "Do It Yourself Night" with speakers aforementioned and some others. So come along and see all the new office-bearers. But try to be there at 8, for that's when we begin. See you. 73, 2AKX.

— . . . —

VICTORIA

Normally I would open these notes by reporting on Council meetings. However I was unable to attend the meeting at the end of January or early in February and nobody has told me what took place. The March meeting will take place on 12th March, which is after copy date. Even my influence with the Committee won't stretch that far (or will it?).

So let us go straight to the March general meeting. For the benefit of VK5 let me hasten to assure you we were packed. Yes, packed into the first two rows of the auditorium. Nothing could be more disheartening to a speaker than this sort of attendance. After making three counts, the maximum I could make it was 24 persons—seven of whom were members of Council. Those who stayed away in large numbers missed one of the best nights we have had in years. Harold 3AFQ brought in his receiver and gave a first class talk on his decision to produce such a unique piece of equipment, and how he went about building it. Some of his ideas show a marked divergence from common practice, but Harold had sound reasons for using them, and they work! When the pressure of work eases, Harold will produce an article, with photographs, for the magazine.

The second half of the evening was devoted to general business. The main item discussed was the matter of the rules for the Field Day. Many spoke on this subject and it now appears certain this matter will become an agenda item for the next Federal Convention.

I had hoped to produce several pages of personal notes this month as I recently spent six weeks doing nothing, which at least gave some time for listening round during the day, but about all that was heard locally was the young gentleman (?) in the South Caulfield area operating on 7.011 Mc. who provides re-broadcasts, complete with commercials, from the broadcasting stations. It is believed one of his class-mates is on 4.9, but he has not been heard at this location. All that can be said for this pest is that he at least gets out. He is heard well in VK5. On the subject of VK5, I worked a few during my enforced holiday, but not a sign of 5PS. Am now more convinced than ever that he has no equipment, as I purposely made statements to force him to come on and defend himself.

Now is the time to consider who will be on Council for the next twelve months. I, for one, will not be re-nominating, and two, possibly three others, also have been forced to call "quits", as they just cannot spare the time. Now is the time for those who have been dissatisfied with the old Council to get into the act. All nominations will be gratefully received, and faithfully recorded on the ballot papers. I'll bet two bob to a dud 807 there will be no need for a ballot.

Last month saw the departure of our President (David 3ADW) to the northern hemisphere of this world. Thanks to the generosity of Ken 3ACS in making his home available, about forty of us were able to attend a farewell function in David's honour. Those present were members of F.E., VK3 Council, Magazine Committee, Broadcast and Disposals Committees. What happened to all the empties Ken?

It is with regret that we record the tragic death of John Worner, VK3WA, and his wife in a motor accident near Young in New South Wales on 14th January. John only joined us last year, and was looking forward to many happy years with us. His death cut short a promising career in physics and electronics. To his family and friends we extend our deepest sympathy.

Have not heard anything of Jacques Sapir for a long time until yesterday, when I happened to be watching the telecast of the first race for sports cars at Sandown Park. Who won it? None other than Jacques 3ZEE. I for one have no desire to drive that fast! Like 5PS, I'm too old to drive over 25 m.p.h.

At the last count somewhere near 50 were expected to be at Shepparton for the State Convention during March. No doubt this will be reported fully in next month's magazine, most likely by the N.E. Zone. And now it is time for notes from the zones.

SOUTH-WESTERN ZONE

Main Zone news this month concerns the Convention to be held at Warrnambool on 27th and 28th April. This is going to be the best and brightest Convention ever held in this part of the world, so roll along folks! Zone members en route to the meeting (at 1500 hours 27th April) and any other mobiles already on the way for the dinner at 1845 hours will be taking part in a mobile scramble on 80, 40, 6 and 2 mx between 1400-1430 hrs. 10 points for working VK3ASZ, 5 for mobiles and 1 for fixed stations. So would the rest of you all over VK watch out and give the boys some contacts!

Sunday's programme will commence at 1000 hours, venue being Jubilee Park on the Hopkins River. Bring the XYL and harmonics and make a picnic day of it. Lunch will be available if you have none. There will be plenty of fun for all the family, and there's plenty of fish in the river, anyway.

Congratulations to Ray 3LK, formerly 3ZAE, on the removal of the "Z barrier". Good work Ray! Call me on 80 mx c.w. sometime, you might even get an answer!

Fair Southwest Zone activity in the N.F.D. Contest, but many calls with mobile or portable gear were absent. Activity included the Zone station 3ASZ operating fixed, 3WB/P in the Grampians, 3WK/P and 3XN/M jumping around like a blowfly. Don had trouble getting c.w. contacts at 3ASZ and in the finish had the other ops sending c.w. with the pressel switch!

Cheerio folks, see you all, young and old, at Warrnambool on 27th and 28th April. 73 de 3XN.

MIDLAND ZONE

During the month of February I had a visit from 3DG and the matter of rotary beam construction was investigated, so in the near future enormous signals on 15 and 20 mx should be eminating from Lancefield.

On 15th Feb. the quarterly meeting of the Midland Zone was held at Maldon and those in attendance were 3ZIK, 3APJ, 3AQU, 3FO, 3AHA, 3ZNE, 3ND and 3ZLJ. The meeting got away to a late start as our President (Don 3ZIK) was trying to persuade a couple of wild ducks to accompany him, but without success, so the barbecue was off, hi! However the meeting got under way at 9 p.m. and all matters of interest were discussed, including the refusal by the P.M.G. Dept. to allow the relay of Z call transmissions for Zone hook-up purposes on the 40 and 80 mx bands.

The venue of our Annual Meeting, to take place on Sunday, 12th May, was discussed and it was decided to have a combined meeting and picnic at Cairn Curran Reservoir with a tour of inspection of the Cairn Curran generating station in the afternoon. More details of this gathering will be in next month's issue of "A.R." Weather permitting, an enjoyable time should be had by all. Members from other Zones will be welcome. So come along with your families and meet your friends, old and new. 73, 3ND.

WESTERN ZONE

Having drawn the marble, here goes for a spot of Western Zone news from this month's scribe at Murtoa. Since last Zone Convention a roster system operates to relieve our hard-working Secretary, Bill 3AKW, upon whose shoulders has fallen the task of supplying Zone notes in the past.

As a matter of fact, Bill has been out on the grass lately, travelling hither and yon on annual holidays, visiting various shacks spread over the State, with a few halcyon days at Lakes Entrance on the side. Bill is a man of many parts and the bush telegraph (or is it the rag chewers' club) says we may soon work him aeronautical mobile.

Another very active fellow in Wilson 3AFU produces spare time out of a magician's hat. Seems that he can run a farm, raise a family, as well as build up for 2, 6, 40 and 80 mx—the latest being 80 mobile with which he can work from any point except on the road just outside Merv 3AFO's. Wilson also uses sundry beams, attends State Conventions and enters contests at the drop of a hat. How's that for activity, and that's not all, as I've used up his quota of space.

The above-named Merv. has not yet erected that tall steel structure on which to mount a quad to end all quads, but has literally used tons of paint on his home at Horsham. We expect to hear that he's bagged some rare ones this winter.

Keith 3ATS has finished building a one-eyed monster right down to installing it in a cabinet so shiny you could use it to brush your hair—if you've got any. The first novelty having worn off and his square eyes returned to normal shape, Keith is ready to string a couple of dipoles from the top of two towers away up there in free space. Like Wilson, he is an inveterate State Convention "go-er to-er" so Shepparton should see at least two Western Zone reps. to absorb things on our behalf.

Neville 3AAQ, an import from Shepparton, now languishes at Ararat without gear, which is on ice at his parents' home because a hotel

SOUTH WESTERN ZONE, VICTORIAN DIVISION, W.I.A.

will hold their next

ZONE CONVENTION

at

WARRNAMBOOL

on

27th & 28th APRIL, 1963

The Annual Meeting will start at 3 p.m. on 27th, and the Dinner at 6.45 p.m.

Bookings can be made with Eric Giddings, VK3ANQ, 8 Nelson St., Warrnambool, or Don VK3AKN, Hon. Sec. S.W.Z.

Deposit of £1 required for each person for accommodation.

Wireless Institute of Australia

Victorian Division

A.O.C.P. CLASS

commences

MONDAY, 6th MAY, 1963

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—

Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: 41-3535, 10 a.m. to 3 p.m.), or the Class Manager on either of the above evenings.

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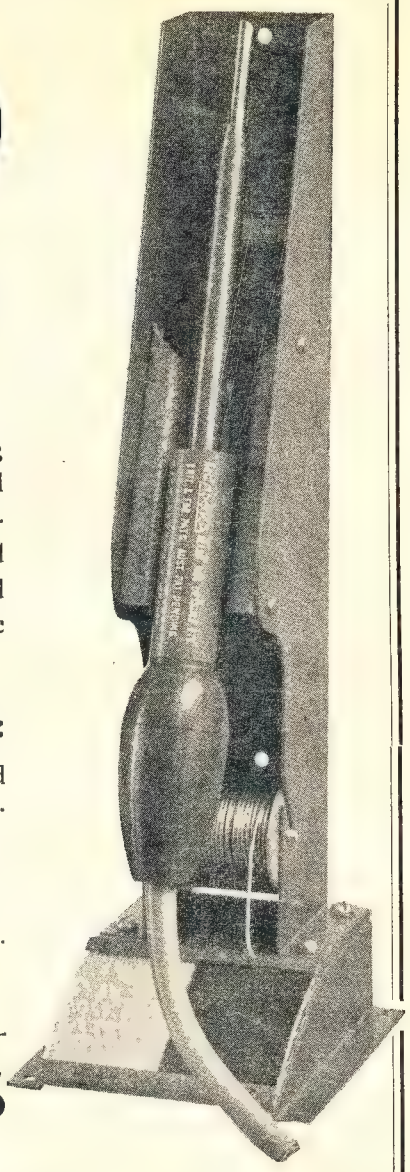

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room does not lend itself to such goings on with Ham equipment. All is not lost, however, as 80 mx mobile is in course of construction and will soon burst gloriously forth if the jalopy is strong enough to pull it.

Where are our long lost sons, Gordon 3GW and Keith 3QG, who so nobly offered to work us from the State capital where they now reside? Let us not lose heart, though, for Max 3AR is nearly ready for the hook-up with his first home-brew gear and Mac 3AZM has moved into Horsham and looks like being a regular on the weekly net.

We have missed Herb 3NN for a long time now but as son Gary has obtained a Limited licence there should be at least one, if not two, signals from Yanac shortly.

Bert 3EF still radiates steadily on at Warracknabeal, sometimes 80, sometimes 40, sometimes DX, but always with a signal to be proud of—or should it read "of which to be proud". Well, fellows, you asked for it—putting this month's compilation in dubious hands. Cheers, Vic 3AEQ.

EASTERN ZONE

The Eastern Zone will hold their annual Convention during the week-end April 20 and 21, 1963, at Warragul. Full details will be on the invitation cards which you will receive shortly. Welcome to any visitors.

A Zone meeting took place on Sunday afternoon, Feb. 17, in Bert's (3BB) back garden. The main items discussed were the coming Convention, initial arrangements for the Zone W.I.C.E.N. Gippsland Control Centre and Network.

Also keeping activity high in the Zone (and in view of the coming W.I.C.E.N. network) it has been decided to hold the Eastern Zone hook-up now at 2000 hours on Sunday evenings on 3650 kc. approx. and 144.18 Mc. What about joining in everyone? This should be a much more convenient time for everybody. See you all at the Convention. 73, 3ZCG.

— . . . —

QUEENSLAND

February always leaves me with a feeling that I've been "got at". The end of the month sneaks up and March is well started, by the time I wake up that I'm a few days short. My spies in Brisbane apparently suffer from the same trouble or else they are all living very pure lives. Well, nearly all.

The "Kingfisher" group, which meet regularly at 0900 each day on 40 mx, decided to get together on a "Hamboree". That will stop Mr. Webster, because he doesn't even list "Jamboree" in his famous book. Anyway, Sunday, 24th Feb., was the date selected for the first "Kingfisher Hamboree". It was held at Caves Creek in the glorious setting of the Nunimbah Valley.

After their usual morning "sked", the group headed for the Hamboree. Alf 4OL, being a good scout, is always prepared, and used his mobile to good effect, telling various VK2s about the proposed outing. When he arrived at the spot selected, he found Jeff 4XP, George 4GG and Tom 4PD heading out of the area in search of firewood, and being QSO with 2CH at the time, the mike was passed between cars so as to enable said wood gatherers to say hullo to 2CH. What some blokes will stoop to do, to get out of chopping wood. When I was younger and used to go on picnics, I always . . . Never mind, you wouldn't believe me anyway.

During the afternoon, the "Hamboree Cake" was unveiled and George 4GG, armed with an axe, cut it. And what's more, got his photo "took" whilst doing it. I'm sure Mavis, his YF, smartly put him in the doghouse for that. Mavis, by the way, made the cake and I'm told it was very beautifully iced. I'll bet George was too, after his effort with the axe. I have no sympathy for you George. To play a trick like that on your YF. Shame on you. And to think that he gets a cuppa in bed every morning, his slippers brought to him, his licence paid, his log book kept up to date. How can you do it? Words fail me. Thanks Mavis, I would like a piece of that cake.

Jeff 4XP, Howard 4WO, Les 4EH and family, together with Bill 4ZBD and YF also attended the Hamboree. The only Kingfisher absent was Bill 4WS, who was ill. A total of 39 attended the outing and general opinion was that it was a huge success and that it will probably end up as an annual event.

The Central Qld. Branch had their monthly meeting on 15th Feb. and it was very well attended. Their Patron, the Mayor, Alderman R. Philbeam, was also in attendance. Main business of the evening was election of officers for 1963. Frank 4FN was re-elected as President, Secretary is C. Bennett, Treasurer W. Peterson and Publicity Officer is 4ZCK. Frank 4FN sounded a warning to those not using

their licences, to the effect that if they don't use them now, they may not be allowed to use them later. An offer of a block of land for use as headquarters station, was received and gratefully accepted.

This Branch has a hook-up on 7 Mc. every Saturday afternoon and consideration is being given to extending it to cover the 6 mx band so that Z call stations can also take part in the hook-up.

An all-out drive for new members has been decided for 1963. How about the W.I.A. Youth Radio Club idea chaps? It won't get you transmitting members immediately, but it will lay a good foundation for members in the future. Also, don't forget any Senior Scout Troops you may have in your area. These lads have generally completed their Junior and some of them will probably be doing Senior, also they are old enough to be able to have a licence by the time the course is completed. I have a group here in Ayr doing the Youth Radio Club course. I couldn't get to first base with the principal of the local high school, he wasn't keen at all on forming a club, with emphasis on radio. So as the training syllabus of Senior Scouts is very different to Scouts, I had no difficulty at all in getting enough boys interested in the scheme.

Queer types, Hams. Winge like anything about the QRM, and then do all they can to get more QRM! In all seriousness though, the more Hams that we can get on the air and keep on the air, the better chance we have of keeping our frequencies occupied.

Bob 4NG has decided to have a crack at 144 megs and only wants a mod. transformer for his 522 to be in business. Gosh, Bob, don't tell me you are too proud to use a power transformer for the job. What's wrong with Clamp tube modulation or reference shift? No transformer to buy. Joe 4CL is staging a comeback and we all welcome you to the QRM Joe. He is building a beaut new rx, complete with imported turret, etc. Must be all of 25 years since I've heard you on Joe. Siley 4SC is going up in the air these days. He has been heard on 144 megs. Tom 4ZL, another old timer, is showing signs of activity and is doing things to Command gear that would horrify the makers. The last time that I heard Tom, he was using a couple of 6L6s (metal) in the p.a., and the length of his overs were governed by how long it took for the shell of the 6L6s to get red hot. True. Ask him. Sorry to hear that your YF is on the sick list Tom. Tell her that you are going to put the rig in the lounge. The results should be startling. (Must remember not to let my YF see this copy of "A.R." as my rig is in the lounge.)

Frank 4FN had a curly one recently. Had indications of downward modulation and traced it to an O/C bypass on the screen of his p.a. Hear that Lance has taken up ballet dancing for a hobby. And just to be different, he practices the light fandango on the roof, in the dark. How were your neighbours to know that you were working on your aerial. He reports only "normal rare DX" on 6 and 2 mx. I have been told often that you haven't got to be crazy to be a Ham, but that it helps! Which brings to your attention Dick 4ZCK. Dick decided to make some home-brew ginger beer. So after getting a young ginger beer plant and leading it home, he carefully fed it and put it to bed each night, and eventually the day came when he could bottle its offspring. This was done with loving care, and said bottles were put away to mature. Early one morning there was a violent explosion from the shack and Dick raced in armed to the teeth with all types of fire putter-outers (can't spell extinguishers) and found that it wasn't his rig at all that had gone up, but that the ginger beer plant was no longer confined, and also his 522 was swimming around in the brew singing, "I belong to Glasgow" (hic). How crazy can you get? Fair dinkum now, Dick, you wouldn't be elongating my lower limb would you?

Now for North Queensland, where everything is bigger than anywhere else except possibly a certain radio mast. The mozzies are bigger, the sandflies are bigger, the snakes are bigger and we have the **biggest** tx in the State, although what it is attached to isn't as big as it used to be, but you can't have everything can you? Ken 4WP has at last got on the air with a converted TA12, using a type of modulation featured in a recent copy of "A.R." He asked me what it sounded like. You wouldn't be having a go at me would you, Bill? Of course not, when I met you I immediately summed you up as an ossifer and a gennelman and a public servant, and I know you wouldn't kid me would you? Or would you?

Another old timer in the person of Frank 4FC could not stand the strain of hearing Bill 4WP on the air, so he got his t.n.t. and loop phone out of mothballs and is back on the air again. Haven't heard of any Hams going on holidays this month. Judging by the number that were away last month, we should be welcoming back some QRM any time. Bill 4SW has returned to the fold as has also Gordon 4GH. Gordon went as far afield as W.A. and didn't even take a tx with him. How did you find your way through the wilds of that wilderness that is situated between Victoria and South Aussie?

The Burdekin Radio Club had its annual meeting in February and in due form sacked all the office-bearers and elected the following: President 4UX, Vice-President 4CW, Secretary 4ZFA, Treasurer 4ZEA, Instructors 4UX, 4RO, 4ZEA and 4ZDG. As the club is reasonably financial, the incoming Secretary moved that the one shilling levy each meeting night be discontinued. This was greeted with dead silence, as it is not the usual thing for an ex-treasurer to suggest knocking any filthy lucre back. After taking his pulse and examining him carefully, in case he had got on to any of 4ZCK's brew, we came to the conclusion he really meant it. The meeting closed with a record in the minutes thanking Val (4OJ's YF) and Jess (my ever lovin' YF) for feeding these hungry blokes each month.

Frank 4CW heard a rare bit of DX the other night and strained his tx chasing it. Anyway, a fuse blew with a refined click. Nothing daunted, Frank got a bit of fencing wire and wedged it in, stoked up the rig again and was greeted with a violent explosion and smoke from the tx. And he has the audacity to tell me that he took up Ham Radio to sooth his nerves! Of course Viv. Wright, associate member, who lives next door, thought it was very funny. I see quite a lot of Viv., set my clock each Sunday morning by him. He arrives at my place at 0958. Morning tea is on at 1000 . . . Still, I'm on the winning side, when I visit his home, Dot (his YF) dishes out delicious goodies and numerous cups of coffee. Charlie 4BQ is active on s.s.b. or s.s.s.c., take your pick, so last Monday I called in to have a look at his gear. Lurvly, really lurvly. Next thing, his YF Evelyn, dashed up to me with a concerned look on her face and a tin of some medicinal goo, that said it was brewed, sorry, bottled, in Victoria, and told me I looked distinctly ill. "Ev," I said, "that greenish tinge you see on my face is not a sign of sickness, it's just plain envy." By the way, Victorians please note. If you see a battleship, driven by a copper haired YL (well, she has copper coloured hair at the moment) that will be my daughter Marion, who is joining the Navy. Come to think of it, how will she get a battle wagon up the Yarra? As far as I know they don't fit wheels to ships. Ah well, some of my friends in VK3 will still talk to me—I hope.

Col King, our ex-genial Radio Inspector, has been promoted and is now down in Brisbane. Congrats. Col, from the gang up here. Col. is never too busy to talk Ham Radio.

Incidentally chaps, if you have any news dealing with s.w.l. or v.h.f., do not send it to me, forward it to the sub-editor dealing with that section. It saves delay.

Have you heard the one about what the halo said to the quad? "I'd much rather be curvaceous than look like you, you square!" That's the lot for this month, so I'll shut up with this thought from 4ZCK:—

Skill and caution are essential
When you work with high potential.
Jack (who's dead) was fancy free,
Until he touched the E.H.T.

73, cheers, Uncle Xray.

P.S.—Any mistakes in this screed are due to Dad's dreadful writing.—His daughter, Marion. (Looks like Dad has to find another typist.—Editor.)

WIDE BAY AND BURNETT BRANCH

I have this day been appointed official P.O. (Publicity Offiver for the late comers) and went to the Annual Meeting of the above Branch of the W.I.A. feeling at peace with the world and no hard feelings toward anybody and that's what they did to me. They'll be sorry.

I counted them all up, fellars, XYLs, YLs, harmonics and others. I counted them all on my fingers two or three times, that's right, 31 all together. The meeting place was in the Sea Scouts' hut on the beautiful and salubrious shores of Hervey Bay (shades of Mr. Fitzpatrick).

As the boys rolled up in their R.R., the usual salutations and chin wags followed, while the XYLs, YLs and harmonics sorted themselves out into their respective groups.

"Chips" 4XR, who has been occupying the Presidential chair, decided to vacate same, so that he can put more time into another A.O.C.P. class that he plans to start up shortly. Everybody looked around at everybody else and Harry 4ZHG was the "victim". Harry agreed to hold the fort for the time being (that's what he thinks) and Chips agreed to give him some moral support by being Vice-President for the Gympie end of the Branch, Gordon 4GH for Maryborough, and Les 4XJ for Bundaberg.

Barry 4LN was re-elected Secretary and likewise Jimmy 4HZ as Treasurer. Bill Tomlinson (one of our Associates) will be attending to disposals.

Seven members of the Bundaberg Club have done their best to answer satisfactorily questions asked of them by the P.M.G's. radio examiner. They are now awaiting results. Gordon 4GH, who has been on a visit to the West, where all the young men go, must be back again as he has been heard on the air lately. He must be younger than he thought he was. Merv. 4ZMD, who left us some time ago, to go and keep law and order at Urandangi near Innaminka, way out back of beyond, has recently had a.c. supply connected, along with his eight parishioners. Anybody looking for a battery and converter? 73, Fred Cox.

— . . . —

SOUTH AUSTRALIA

The Annual General Meeting of the VK5 Division was held to a capacity audience, partly composed of those who did not realise it was going to be such a meeting and were thus trapped before they could get out, and partly composed of those who always come along to such a meeting to ask awkward questions of the departing members of the Council and thus give the incoming Council a taste of what they can expect in the year to come.

Speaking personally, after thirty odd years of such meetings and graduating from one section of the abovementioned audience to the other, I find such meetings a trifle hard on the feelings and I am beginning to think that before such meetings open there should be someone delegated to warm up the members, something along the lines of the live radio or t.v. show. It would go something like this, "Hi, folks! This is your warm-up announcer Ted the Twirp, welcoming you to the Annual General Meeting of the VK5 Division. Now folks, when the annual report is read, let's not have any moaning or groaning. Just a few gasps of dismay! Can we try it? Let's hear some gasps of dismay. Not bad, not bad. When the Chairman praises the work of his fellow Councillors, let's try to keep the protests down and the applause up, and whilst I am on it, last year a member stood up and said that 'Spineless men were running the Division'. Let's not have that again, remember it's these spineless men who are the very backbone of our Division.

"These meetings are always exciting, you may remember one of our Council members committed suicide last year, right after the reading of the financial statement. So stick around, don't leave early, anything can happen! Let's have plenty of hoots and hisses whenever Federal Executive, the Editor and Management Committee of the magazine is mentioned, with a special rude noise for the VK3 scribe, and also don't forget to sob loudly whenever mention of VK4 is made. Folks, get your eggs and tomatoes ready for any mention of the Publicity Officer. Fire to hit, not to miss like last year; after all he is a big enough target. Don't fire until you see his bloodshot eyes. And now I see it is time to begin, so-o-o-o-o here he is, your chairman, my chairman, our chairman—Honest John from Cheltenham, the author of the best seller, 'May this Division be safe from proxy votes'!" Loud and prolonged cheers and applause whilst the chairman cleans his spectacles of egg and tomato stains. Well, that would be good, but it is only pipe dreaming, what actually happened was . . .

The meeting commenced 20 minutes late, due to the fact that there were so many affluent members anxious to renew their subscriptions, which as the chairman (John 5LC) pointed out in explanation for the delay, was a very good reason to delay anything. And so say all of us. Anyway, the meeting progressed the normal way of all Annual General Meetings, and were it not for the rather controversial notice of motion on the necessity or otherwise of Trustees, the audience could have been pardoned for all dropping off to sleep. I feel that the reaction of members present to the proposed motion somewhat surprised the movers and it came as no surprise to have them withdraw the motion and agree to the appointment of Tony 5II, Brian 5CA and Ses. 5GP as a sub-committee to investigate the whole matter and report back to the membership within ninety days. A few present were under the mistaken impression that these three had been sentenced to ninety days and

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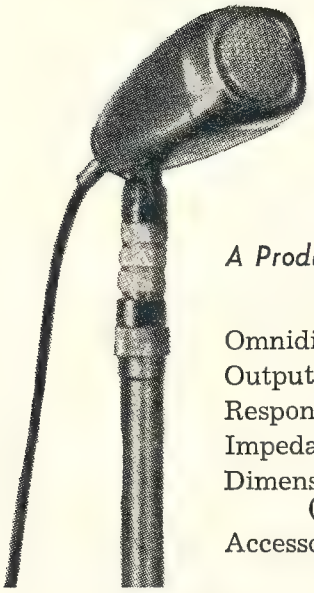

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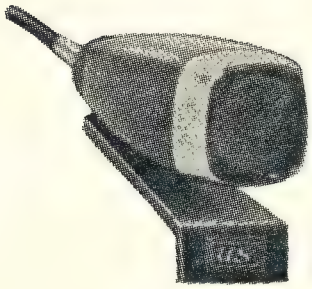

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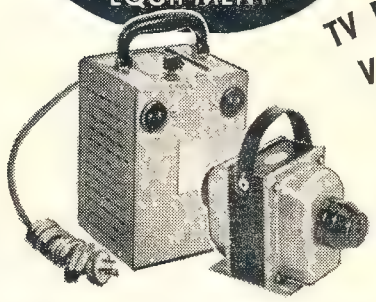

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a wave of cheering swept the room only to cease when the true case was explained.

Several matters were then discussed, such as the "Xmas Do" and whether or not it should now be a mixed night or not. The mixed night won hands down. Also a few suggestions re the disposals nights, the principal one being that only members should be permitted to buy or sell. This was unanimous. Several other minor discussions took place, but as they were minor, let them remain so. The result of the ballot was not unexpected, the two successful nominees being Leith 5LG and Rob 5RG with the rest of Council going back as a whole. This finished the Annual General Meeting and the monthly general meeting was ushered in, disposed of in the record time of 40 minutes, and produced very little of importance. All in all, a very good night, not as lively perhaps as some Annual General Meetings I could name, but at the same time one of the best attended I have seen.

Personally, I think my opening description of what should have been the meeting would have been very much better for all concerned, nevertheless a good time was had by all. I cannot close the description of the two meetings without making reference to the fact that at the exact moment the afore-mentioned controversial notice of motion re the Trustees was announced, all the dogs in the neighbourhood started howling and wailing to such good effect that the meeting was thrown into temporary confusion, not in any way improved by Pansy announcing in a stage whisper that it was probably the Trustees at work!!

Leith 5LG tells me that his daughter was not very interested in radio, but his grand daughter more than makes amends by her interest in the Morse code. She is always keen to operate the key or the bug, and although only two and a half years old, will send dots or dashes at her grand-poppy's request, all day or night. I have always wondered what those dots and dashes on the bands were. Now I know.

Joe 5JT, who has been the communications officer for the Division for more years than I would own up to, is now out of a job with the Federal network discontinued. A good job well done, Joe, you will have more time for the DX now.

George 5CV well pleased at the meeting night at QSL time because it now means his total of countries confirmed is 107. Nice work George. By the way, I have been trying to catch up with you. Did you ever live at Haigh Mansions on the Esplanade at Henley Beach? If so, I used to be on the flat upstairs to you. You could not have been interested in Amateur Radio in those days!!

Talking of QSL cards brings me to the fact that Ted 5JE received his VK D.X.C.C. award this month and it was endorsed for all 7 Mc. contacts. This is something of a record I would think, anybody else D.X.C.C. on 7 Mc. only, and c.w. at that? That should fox them out, Ted!

Pete 5FM is reported as the proud owner of a Thunderbird beam and is more than satisfied with the results. In fact, putting it in the language of the average layman, signals just audible on a long wire came up to S7 on the beam. My spy further reports that several pilgrimages to the QTH of Pete are taking place by those interested, and most of the pilgrims can be seen leaving, openly licking their lips in anticipation of the results they expect to get upon an installation of their own.

The Admiral (5ZAH) has not been exactly in the pink at the moment of writing, although he can't be too bad, because he and Dave 5DS went up to the Murray for a spot of fishing recently and although not much was caught, a good time was had by all. Dave, so my spy reports, excelled himself as head cook and bottle-washer, and though I find it hard to credit, even went as far as to serve breakfast in bed to the Admiral—true as true! Dave reckons they had the wrong technique for the fish and threatens to try them out next time with "Flies". "Trout Scott' they call him, but you should have seen the one that got away!

Howard 5XA has tired of 288 Mc. and gave his gear to Frank 5MZ to try out. Frank is not very impressed with 288 Mc., contacts are few and far between, but I am glad, if Frank mucks about with this v.h.f. stuff for long, who knows, he might even go s.s.b. Stick to the d.c. bands, OM, don't leave me stuck out on a rock like a shag, Frank. Don't you desert me, keep the colours flying!

Joe 5JT, missing for many moons, heard several times on 7 Mc., wielding a wicked key and calling CQ DX. Good to hear you, Joe, keep going OM, you might even get some rare DX, such as 5PS. What am I saying?

Had a meeting with Arch 5XK recently, and although I always talk of him as the wild man from Norfolk Island, I was quite unprepared for his reply to my greetings and salutations. It sounded like "wiyrpzzvxthsed," and when I said, "I beg your pardon," he again said "wzxxzvwsxzzzbsge." Luke 5LL, who was acting as interpreter, said, "Don't worry, he has had all his teeth out today, and is kicking against the wind." Arch nodded his head vigorously and gave me a dazzling smile, exposing the new teeth in the process, the net result being that two passing motorists went white and accelerated up the street, and three children playing nearby rushed inside crying loudly "Mummy, Mummy." I was only sorry that I did not have a caramel lolly to offer him, the results might have been interesting. Never mind, Arch, your turn now!!

The well known "lunchtime" session on 7 Mc. is still going great guns, but the conditions lately have made the going a little tough. Many and varied are the subjects that come up for discussion, and believe it or not, my name has been mentioned now and again, and in my favour too! Wonders will never cease.

Luke 5LL went out of his way to tell me that he was knocked back at the local post office when he tried to pay his licence renewal this week. I sympathised with him, and we both made a rude gesture in memory of Max 2ARZ. He never reads these notes so the act will pass unnoticed, I hope!

The official station 5WI must be giving members of the Council some food for thought these days. Due to the prevailing conditions on 7 Mc. in VK5 at the moment reception of the Sunday morning transmission is almost non est in the metropolitan and ontlying areas. More and more members are giving the session away for this reason and its utility and usefulness is fast disappearing. Clive 5PE is doing an extra good job as the operator of the station, but all the good jobs in the world go by the boards if there are no listeners. Certainly there are re-broadcasts on practically all bands, but the primary frequency is still 7 Mc., and ironically enough the 3WI broadcasts are coming in at the moment in VK5 like a ton of bricks on that band. I had a brief listen for about a half hour this week-end to that session and must compliment both the operator and the station on the job they are doing. How low can I get? Listening to 3WI. Tut-tut-tut—and a couple of tots.

A couple of months ago I alluded in this column to the fact that one of my spies, a seductive bit of the doings, had given me some information. A good friend of mine, with evil intent, showed this paragraph to the said SB of TD, and to say that she was acidy would be to understate the whole matter. The next time she met me she gave me a piece of her mind and stressed the point that if I had to quote her, to please not use such disgusting expressions, and please stick to the truth and nothing but the truth when mentioning her name. Naturally as I don't want to lose such a good spy, a seduc—Oops—I will do just that in future.

Nothing suits my grandson better, upon his very frequent arrivals at my QTH, than to press the buzzer at the back door and wait in gleeful anticipation for the door to open and a raging lion, frenzied elephant or some such wild beast to attack him on the spot. I am told that my humble efforts as a wild beast would put Laurence Olivier to shame, and my natural modesty prevents me enlarging on the matter, but one day this week my XYL decided to get into the act and show me just how much she resembled Ingrid Bergman. Well, to make a short story longer, the buzzer went, my XYL rushed up to the door making the most weird noises and sounds, prepared to devour the brave hunter waiting at the door, only to retire in red-faced confusion at the sight of a thoroughly frightened baker. She need not have worried, the baker took the back fence in his stride and has not been seen since. Well Mum, that should put me right, that's sticking to the truth like you said. Anyway, I still think you are a seductive drop of the doings!! Oh dear-oh dear, here we go again.

Lionel 5LD heard on 7 Mc. on Sunday morning in QSO with a VK2 who was raving about the quality and strength of his signal. As a matter of fact this good quality of Lionel's signal has always been present, so much so, that some twenty-five or thirty years ago I went out to his QTH to copy his modulator, a 45 direct coupled to a 50 in Heising, and it saw good service for many years with voice and music. Remember that Lionel? You drove me back to town on the back of your motor bike! I couldn't sit down for days and with my figure, what a good advertisement for the back tyre!

Received the information this week, a little late perhaps, but better late than never, that Hughie 5BC was recently the victim of an attack by a bee or bees, number not stated. I have often heard the expression "A flea in his ear," but Hughie went one better and finished up with "Bees behind the ear." Joking aside, he was badly affected, needing medical attention, spent several days in bed, and very wobbly on his pins for about a week. Bad luck Otto. Hope all is well by now.

Tom 5TL, "The Voice" to you, was recently in conversation with the local electrician at his premises and noticed the remains of a t.v. aerial on the "dump". Now Tom, never missing an opportunity, scrounged said remains and carted them home, spreading them out on the lawn with the idea of working some sort of a miracle and perhaps ending up with a 14 Mc. beam. Hughie 5BC got into the act and decided that there were distinct possibilities of a 144 Mc. yagi, and Tom's lawn was soon bare of a t.v. aerial and any chance of a miracle. Any further information on this smooth piece of business acumen possibly may be found in some future v.h.f. notes!

The photograph of the Crystal Brook get-together published in February's magazine created a furore in VK5 circles. Comments were varied and at times picturesque, Launce 5LD ("Pop" to you) being described as distinguished looking, or was it extinguished? Anyway, it does not matter, everybody agreed that the photo was a good one. Someone suggested that Anno Domini was well in the photo, but I could not find him, what is his call sign?

The VK5 Division held a special disposals night this month, the reason being that there was more gear coming in than was going out and the Disposals Committee was running out of storage space. I was not present at the meeting, due to having to fight a losing battle with the proverbial wolf at the door, but the Divisional journal reports that "The disposals night held last Wednesday night was very well attended and I think everybody was satisfied."

In listening to the 3WI broadcast the other Sunday, I could not help but note that the s.w.l. representative appeared a little "browned off" with the lack of letters received on the doings of the s.w.l. section. Apparently all sections of the Divisions suffer from the same troubles, a few tried and true members do all the work, and the rest sit back and criticise. I have been very fortunate in this respect as my letter writers always come to light with itty-bits of information which I manage to distort in a satisfactory manner, for me anyway, and nobody is game to criticise too much for fear that their name might appear in the next month's magazine to their discredit. As if I would!!

At this time of the year our subs. fall due and it used to be our practice to send out an account to all members. Postage became too high for this practice to continue and all that is done these days is to include a reminder in the Divisional journal. Now cough up fellows, and to that coarse type who suggested that now I am a Life Member I do not pay any fees, I suggest he takes another look at the receipt book. Very subtle!

One of my part-time espionage agents from Mount Gambier tells me that Karl 3ABN/P is better known as W5BGL. Karl has been in the S.E. area attached to the Siesmic Survey party, which if all can be believed, is considerably disturbing the fish in that region. He was in VK7 for a while and will be in VK5 for about six weeks, before returning to the States. He possibly will be returning to VK in 1964. Nice work Karl, might see you at a Divisional meeting one day or night. Here's hoping.

By the way, Claude 5CH has been QRL in the Robe area in connection with the volts and amp. supply, and expects to be in Adelaide over Easter. He has been keeping his hand in on Amateur Radio by constructing a sooper-dooper coupling unit which will already have been launched by the time this is being read.

You have all heard the saying "The poor have children and the rich have motor cars," or perhaps, "The a.m. men get s.s.b. filters," or possibly "The phone men get Morse keys," and last but not least, "The c.w. men get modulation transformers." Well, at least the last one is correct because Harry 5MY was the successful winner of the ballot at the recent auction night of an outsize in mod. trannies. Strictly a c.w. man, Harry is in somewhat of a quandary. Will he keep the flag flying and waste the tranny, or will he lower the flag and use the tranny? Sounds more like a morning serial on the radio, does it not? Harry Harried by Horrible Hopportunity to break with tradition. Will he do it? Will he succumb to temptation? Time only will tell.

For many months now I have always been assured of a couple of sure paragraphs in these notes. Last month I lost one for ever, I received my Worked Elizabeth Award. This

month I paid my Radio Amateur licence at the Norwood Post Office instead of tracking all the way up to the Receiver of Public Monies at the G.P.O. This will bring joy to Max 2ARZ, to several bods in VK4, and to several of the VK5 fraternity, who have never let the matter die since my original paragraph two or three years ago. Oh dear, oh dear, however will I fill these notes now? Don't answer that!

One of the members rushed up to me at the meeting and said in a very threatening manner, "A bloke from Eyre is going to have a shot at you," and grinned in fiendish anticipation. I puzzled just who was licensed in Eyre, but no dice. Then it struck me, there was an Ayr in North Queensland. Oh me, oh my, can it be that a VK4 is again to attempt crossing swords with me? My dismal life is brightened at the thought. "To the battlements men." "Methinks the air is rotten in Ayr." Pardon me, danger brings out the worst in me!

Well, here we are again, annual leave time. The notes next month will be written by that ace journalist, Brian 5CA, I hope, and for once your sense of propriety will not be offended, nor will you have to read my mutilation of the English language. There is no truth in the rumour that I am fleeing the State because in my description of the "Xmas Do" I was foolish enough to say of the three charming young ladies in the kitchen—"May their shadows never grow less." Woe is me! 73 de 5PS—PanSy to you.

— . . . —

WESTERN AUSTRALIA

Pow! Pow! Two shots rang out and Paladin lay writhing in the blood-soaked dust, heels kicking spasmodically, while Hoss Bonanza stared at him through slitted merciless eyes, over the top of the smoking, hammerless revolver—eh! What's the time? What band are we working? What? It can't be March! It's April? Heck! Next it'll be Easter time, then the end of the financial year! Here it is half the year gone and nothing done. So get with it chaps and DO something!

Talking about doing something, had a personal contact with Pat 6PH recently, and discussion got round to the psycho tests given to aspiring members of the Armed Services. The old one was mentioned and Pat said they really **did** see a ship in the middle of the jungle up in the islands. It had apparently sailed up a narrow canal during the rainy season and got stuck and there the corvette was, viewed with some surprise by Pat and his mob. Well! What would **you** do? Yeah? I'll bet there wasn't any radio gear left on it by the time Pat had passed by.

Mention of Radio gear reminds me, our Technical Officer, Ralph 6ZAD, is working on the Divisional BC342 Rx so that it will be in tip-top shape for use by our new Broadcast Officer, Vic 6VK. Good work, Ralph, don't spare the expense, buy the rx another valve. Congrats. too, to Vic as Broadcast Officer. Vic says the W.A. news will be broadcast simaltaneously on 80 (s.s.b.) and 40 (a.m.) and re-broadcast on 6 mx by Bob 6BE. In handing out the bouquets, we mustn't forget Wal 6AG who carried the news broadcast for so many years. This wasn't the only job Wal was doing of course, he is still membership secretary. Cheers Wal, and thanks from us all for a fine job.

A fine job calls to mind that the v.h.f. boys have been at it again. Providing a network service for car trials seems to be a regular thing nowadays, and, I would suggest, an excellent stimulus for getting Hams operating mobile. Enthusiasm evident in large lumps everywhere. That reminds me, what happened to that vibrator power supply I loaned someone for the **first** car trial? Mmmm!

Alyn 6ZDM tells me he wants someone to develop a new device. This is called a "clot" suppressor. Specification is that it should be entirely automatic once the rx is tuned in, be able to discriminate between clots and non-clots, have a bandwidth of 15 cycles to 15 kc. a.m., f.m., and s.s.b, with the ability to turn the far end tx off after a reasonable time as a desirable characteristic.

Our President (Ron 6KW), having recovered from his visit to JA land last year, y'know, eyes normal shape and has stopped drinking saki, turned the tx key on recently (no squeaks) and got himself a VQ1 on 21 megs. Ron says he's having feeder trouble, too. Must be all the hyphens getting stuck Ron, and making the wind brittle. Oddly enough, Allen 6MO couldn't even hear the VQ1. Perhaps its that quad's not quite cubical or something, Allen.

Have a couple of sickies on the list at the moment. Associate Ross Hardwicke not enjoying the best of health at the time of writing, so we trust that all is OK again by the time you read same. Assoc. Geo. Kenny didn't make the February meeting either, because he had an argument with a car, whilst he was on a pedestrian cross-walk. Fortunately, Geo. was able to go home after observation at the hospital. Hope there are no after effects Geo. and you are about for the next meeting.

Believe our Patron (Geo. 6GH) had a trip into the Great Southern recently, went through Bunbury at a rate of knots so did not see Les 6WL or Cole 6CL (incidentally, if you see Cole, don't mention the price of the amber fluid) and raced on to Katanning to join the X Group in the congenial surroundings of the Katanning Club. Geo. certainly appears to be enjoying his retirement to the full. A fine figure of a man. A gentleman and a scholar, sir. Besides, he knows a thing or two, does Geo, judging by the excellent technical articles we get after the news broadcasts on Sundays. Keep it up, Geo., they're popular.

The only real news I have from the country this month is word of 6LF racing down from Carnarvan to Geraldton recently to be in the local fox hunt. Gee! Did you follow the signal **all** the way!

As regards the State generally, Tony 6TY, who labours for the D.C.A., says there are two of every conceivable piece of radio gear in various parts of the country in preparation for the Royal visit, so we hope everything works OK Tony.

Well, there it is chaps, if you are shy about seeing your own name in print, put some of your cobbers in and I'll mention them. Cheers for now, 6LS.

— . . . —

TASMANIA

Our Divisional Council elections will be over by the time these notes are published, but I wish to publicly acknowledge our debt to two retiring Councillors, namely, Ken 7KA and Allan 7MY, both of whom are not seeking re-election. Ken 7KA has been our Divisional Secretary for six years, during which time he has laboured long and well for us. I am not aware of Ken having missed a Council meeting, and I am only aware of one Divisional general meeting missed by Ken in all that time. At one time, Ken was Divisional Secretary, Bulletin editor, publisher and distributor, and Sunday morning broadcast officer, all of which amounts to a great deal of work for one man. Mercifully, our next Secretary will not have to cope with all these duties.

In addition to all these activities, Ken has been an active supporter of the various Divisional activities, including participation in the Remembrance Day Contests annually, the National Field Day Contests, social functions, such as those sponsored by the Club Room Fund-Raising Committee. Ken. we understand your desire to relinquish the ties of the many duties and we thank you sincerely for your many good works.

Allan 7MY has been a Councillor for two years on this occasion. Allan was responsible for providing the technical article in our monthly Bulletin, and he has always taken a lively interest in Council and general meeting activities, as well as being on more Amateur bands than any other Amateur in VK7. Allan re-transmits the official broadcast on the 6 and 2 mx bands. He has done all this while building a new home and carrying on his livelihood as a farmer. We thank you also Allan for making yourself available to the Division when Councillors were hard to get.

David 7ZAY celebrated his 21st birthday on 6th March, while Danny 7ZDM reached the same age on 20th March, so congrats. to both of you chaps.

The VK7 participation in the National Field Day Cotnest was rather disappointing this year, but congrats. to John 7JF for his fine effort. Other stations heard by me were 7DK, 7CH, 7LJ, 7BJ. Conditions on both 3.5 and 7 megs. during the A.R.R.L. C.w. Contest in Feb. were really excellent and many stations were worked by the few VK7 stations to take part. Conditions for the B.E.R.U. Contest, however, were not very encouraging, even though Pacific area stations at times were worked.

Our March lecture was on Tunnel Diodes, and what a truly excellent address this turned out to be. Not only was the theoretical side of the subject thoroughly discussed, but the demonstration of gear was most impressive.

Anne Landers has recently taken delivery of an AR7 rx and she hopes to have it in proper functioning order very shortly. Members, remember that subscriptions are now overdue. Please forward your dues to Box 851J, G.P.O., Hobart, now and save your new Secretary the troubles connected with removing and re-instating your name on the circulation list of this magazine.

The Youth Radio Clubs are now receiving concentrated attention from this Division. I have to thank 2YA for supplying me with all the necessary information on this topic. We now hope to proceed at speed with this project within this Division. If you can help with this project, let your Council or Zone Secretary know. We will be able to use your services.

We were delighted to meet Bob 4RW down here in Hobart during February. Bob was welcomed into many of our homes here and was also able to attend the meeting of the V.h.f. Group on 20th Feb. We hope to meet up with you on the bands, Bob.

73, Ian 7ZZ.

NORTH-WEST ZONE

The meeting in March was a social event with an enjoyable selection of movies by courtesy of Sid 7SF. Sid also gave us a working demonstration of his auto-tune tx.

The evening was marred somewhat by a communication from the Southern Zone unequivocably advising of our status. It is most distressing that more diplomacy is not employed in such circumstances.

There seems to be little activity on the bands, although Ken 7KH has been working some DX on 20. I noticed Winston has a mobile whip on his car and 7ZBH is mobile on 144.

David 7MS seems to have big things in mind and plans to surprise us with a new rig. I wonder if another "duck" is about to take to the air.

Had an interesting talk with visitor Bob 4RW recently. His zone in VK4 apparently has similar troubles, etc., to ours, so the picture seems the same all over.

The tx hunt on 17th March is now over, so no doubt the winner has been announced. 73, 7ZBH.

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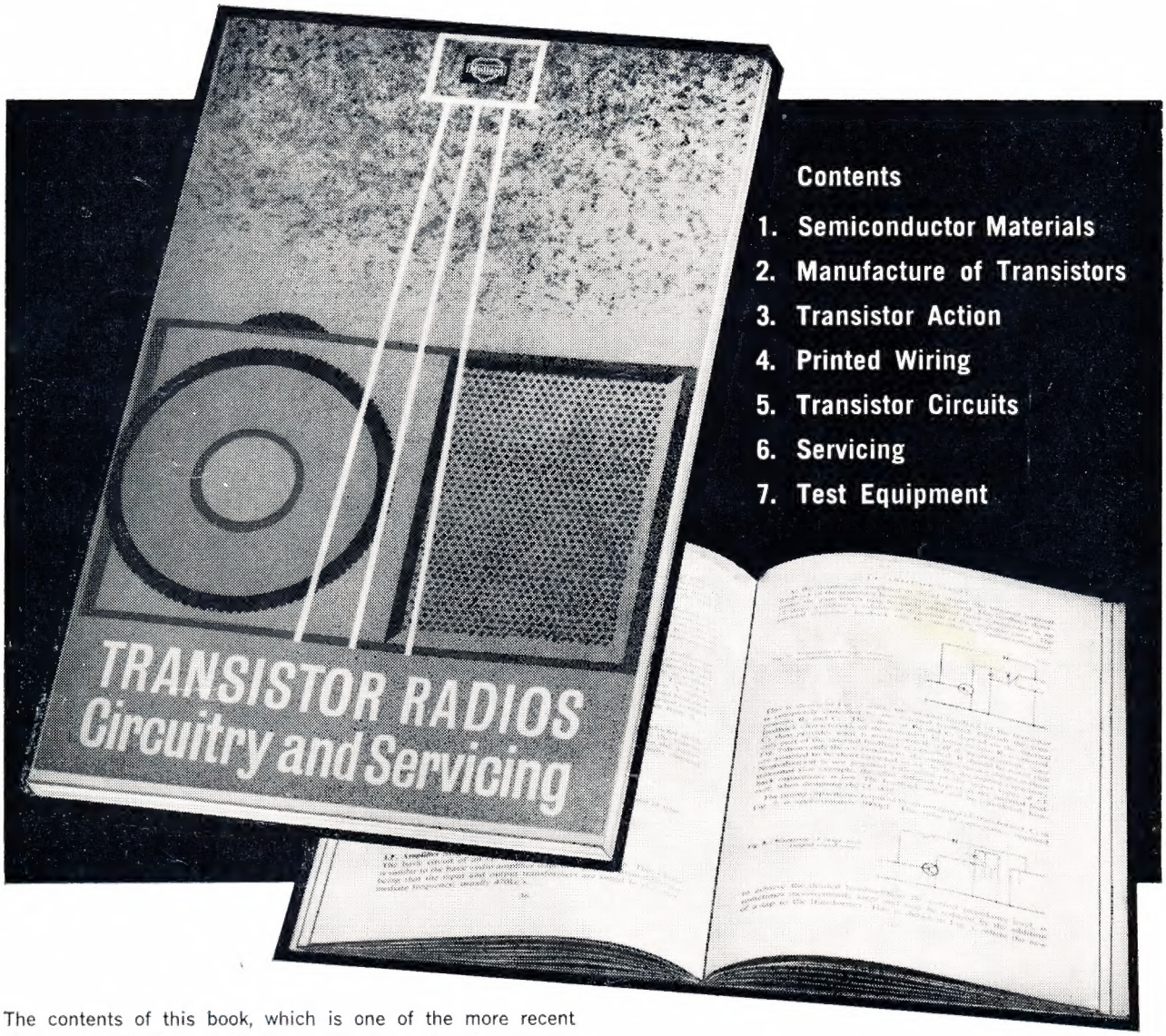

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